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THE JOURNAL

OF THE SOCIETY OF ARCHITECTURAL HISTORIANS

Vol. 8, Nos. 3-4 July-December, 1949

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Assistant Editor, Edwin C. Rae University of Illinois

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THE SOCIETY OF ARCHITECTURAL HISTORIANS

Founded 1940

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1. To provide a useful forum and to facilitate enjoyable contacts for all those whose special interest is the History of Architecture.
2. To foster an appreciation and understanding of the great buildings and architects of historic cultures.
3. To encourage research in architectural history, and to aid in disseminating the results of such research.
4. To promote the preservation of significant architectural monuments.

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JOHN TRUMBULL, AMATEUR ARCHITECT

Theodore Sizer

Like many an eighteenth century gentleman, John Trumbull was well versed in architecture. His interest in the subject was initially engendered when a student at Harvard, from which he graduated in 1773. A gift of nine recently published, monumental volumes containing the prints of Piranesi - the greatest of all architectural printmakers - to the College Library from an alumnus returning from the Grand Tour in 1772 made an indelible impression on the brilliant, romantically inclined youth. From the College he derived a rigid classical education. On his own the introspective, moody student learned French, mastered perspective, copied Copleys and, through the eyes of the great Piranesi, saw visions of Rome's grandeur.

With mind ablaze the versatile seventeen year-old graduate returned to the house of his father at Lebanon, Connecticut, the seat of commerce and politics. Shunning both he took refuge in school teaching. His crusty old father, Jonathan Trumbull, diverted his talented son from painting imaginative classical subjects to practical map-making. Young John nicely delineated the Colony's claims to the western lands for his father, the Governor (these maps are now in the Massachusetts Historical Society). War mercifully rescued the would-be artist from further uncongenial tasks. Shortly after the news of the affairs at Lexington and Concord he marched away with the Connecticut volunteers. He became Washington's aide at Boston (due to his ability to draw maps) and later Adjutant General for Gates at Ticonderoga, which he also mapped. Then, when things did not go to his liking, the emotional, unstable youth - a full colonel at the age of twenty-one - threw up his commission over a trivial matter in the midst of the War and proceeded to British-freed Boston to study art. The Tory Copley had fled in 1775 and there was no one to help him. He did, however, manage to derive certain benefits from inanimate sources. He rented the painting room from the heirs of old John Smibert, (who had died a quarter of a century before), in which he found a number of that master's copies of European paintings. These he copied. He must have found imported books on architecture at the homes of friends, for there exists a drawing in pen-and-ink of an Anglo-Palladian villa, with plan, obviously entirely derivitive, dated 1777. It is the earliest architectural effort by Trumbull known to the writer.

This drawing (in the New-York Historical Society) is pasted on the first sheet of a scrap book, the title page of which bears a notation, in the hand of Alexander J. Davis, partner of Ithiel Town of New Haven (in the New York architectural firm of Town and Davis) as follows: "DRAWINGS/ by/ Col. JOHN TRUMBULL, Esq./ Painter of the Declaration of Independence/ The Battle of Bunker Hill, Death of Montgomery/ ALL ARCHITECTURAL SUBJECTS/ WHILE IN LONDON, WASHINGTON, N. Y. AND N. HAVEN PUT UP IN THIS VOLUME BY HIMSELF/" (then follows a long quotation from Trumbull's Autobiography, 1841, pp. 90-91) "I arrived in London in January, 1784, went immediately to Mr. West,

and was received most cordially. My father had written a letter to Mr. Edmund Burke, expressive of his gratitude for the kindness shown to his son when in prison, commending me to his future protection. This letter I early presented, and was most kindly received. 'Your father speaks of painting as being the great object of your pursuit; do you not intend to study architecture also', asked Mr. Burke. I replied, that I thought I knew enough already, for my purpose in backgrounds, &c. 'I do not mean that, Mr. Trumbull; you are aware that architecture is the eldest sister, that painting and sculpture are the youngest, and subservient to her; you must also be aware that you belong to a young nation, which will soon want public buildings; these must be erected before the decorations of painting and sculpture will be required. I would therefore strongly advise you to study architecture thoroughly and scientifically, in order to qualify yourself to superintend the erection of these national buildings - decorate them also, if you will.'" Below this follows: "This vol. was presented to Alex^{r}. J. Davis Arc't. The pupil and friend of Trumbull."

This interesting dedicational and explanatory foreword of "the pupil and friend of Trumbull" requires amplification. Trumbull's famed Autobiography was written when the artist was eighty-four years old, at New Haven, in the home of his nephew-in-law, the famous Yale scientist, Professor Benjamin Silliman. The latter recorded the circumstance, (in 1858) quoted above, in this wise: "While Col. Trumbull was a prisoner in London on charge of high treason Mr. Burke who, with other eminent men took a warm interest in his welfare, visited him and advised him strongly to make himself well acquainted with architecture, as there would evidently be a great demand in America. The advice was not neglected and great attention was paid by him to that very important & beautiful art. From drawings left by Col. Trumbull, it appears that he had knowledge, judgment & taste in architecture, as well as consummate skill in deliniation." (from an unpublished ms. in the Yale University Library). Edmund Burke, Charles J. Fox or other kindly disposed persons undoubtedly placed architectural books in the hands of the prisoner who was allowed (and paid for) special privileges during his eight months enforced residence at Tothill-fields Bridewell. Besides studying architecture he occupied his long hours by copying a copy of a Correggio lent to him by his master, Benjamin West and even in making life studies of a muscular male nude (the "St. Jerome" copy is at Yale and the life drawings at Fordham). Enforced confinement has produced brain children as varied as John Bunyan's Pilgrim's Progress from Adolf Hitler's Mein Kampf. With young Col. Trumbull it was an abiding interest in, and considerable knowledge of, architecture.

When, at length, the ex-rebel officer was set free he returned to his home to find his father, now Governor of the State of Connecticut, determined that he enter a profession - law or, preferably, divinity. The Governor, who had been trained for the ministry but had been diverted, by circumstances beyond his control, to commerce, undoubtedly hoped that his talented son might fulfill an ecclesiastical mission. The young colonel remonstrated "and again dwelt upon the honors paid to artists in the glorious days of Greece and Athens", to which the disappointed Governor tartly replied, "You appear to forget, sir, that Connecticut is not Athens".

Trumbull persevered. He returned to London, to West and to the Royal Academy School. He began his famous historical series under the eye of his kindly master and with the enthusiastic encouragement of Jefferson. He then returned to America to collect the "heads" of the Founding Fathers and those who had been actors in the stirring events surrounding the birth of this nation. While at the capital city, Philadelphia, in 1792, busily engaged in portraiture, the Harvard graduate was approached by James Hillhouse, Treasurer of Yale (1782-1832) about a new plan for the College buildings. Trumbull obliged the Treasurer with plans and elevations (Pl. I, Fig. 1) of a long row of brick buildings (not unlike "Brick Row", subsequently built by different hands) and a fully developed landscape lay-out covering a city block corresponding to the Old Campus. "The proposed plan," the Treasurer and Member of Congress wrote to the Rev. Ezra Stiles, President of the College, "would be attended with an Air of Elegance and beauty beyond anything in America and I think combine economy and convenience. ... I pay great deference to the opinion of Mr. Trumbull who appears to be perfect master of the Subject, and attentively to have improved the great opportunities he has had for making observations." (letter of 24 December 1792, in the Yale Library). Trumbull expressed this opinion on the margin of the plans, (also in the Yale Library): "On the whole I trust that the Corporation will meditate a time - not, far distant - when New Haven shall become another Oxford, & will make their present decisions with a View to future Embellishment: - anticipating that happy Period, when the Arts of Peace shall succeed in the Esteem of the World, to those of Devastation, which have so long engrossed the Applause of ..." (balance torn off). On the lay-out for the College grounds he noted, "The Temples of Cloacina - which it is too much the custom of New England to place conspicuously - I would wish to have concealed as much as possible, by planting a variety of Shrubs, such as Laburnums, Liliacs, Roses, Snowballes, Laurels, &c. &c. - a gravel walk should lead thro the Shrubbery to these buildings..."

Trumbull was in London again from 1794 to 1804, this time in a diplomatic capacity, as one of the Commissioners for the supervision of the provisions of the Jay Treaty. When his ten year term expired he returned to America and set up as a portrait painter in New York City. To his grief he found that the unsettled commercial conditions, due to the Napoleonic wars, caused a dearth of patronage. But things were different, at least ecclesiastically, in his old home town. In 1804 he designed a new meetinghouse for the First Society (Congregational) at Lebanon. The church was built (1804-1806) somewhat in the Gibbs (St. Martin-in-the-Fields) manner, with a tower enclosed within a pedimented facade, in brick with the usual wooden spire (Pl. I, Fig. 2). An unusual feature was four engaged, Roman Doric columns of moulded brick on the facade. The meetinghouse, the only extant example of Trumbull's work, has twice come near destruction. In 1875 - only a year after that initial awakening of interest in America's past with the Centennial Exposition at Philadelphia - the interior was remodelled - and ruined. Space was provided for the Missionary Society by extending the balconies to make a second floor, necessitating the elimination of the Palladian "pulpit window" on the rear of the church. The window trim was stored away but the delicately carved cornices were thrown out (some pieces were purchased by the writer in 1928). The interior was thoroughly "General Grant". The Great Hurricane of 1938 was disastrous,

but a mixed blessing. The spire of the meetinghouse was blown across the roof ridge and crashed through supporting purlins and the 1875 floor to the ground floor below. The central portions of the two side walls fell in. Fortunately, largely through the efforts of Connecticut's intelligent governor, Wilbur L. Cross, J. Frederick Kelly (late author of the recently published Early Connecticut Meetinghouses, Columbia University Press) was commissioned to put the near ruined edifice back as Trumbull had left it. This work has gone on, intermittantly - as funds have swelled and subsided - until most of it, with the exception of the spire, is now done. Lebanon, little changed from the eighteenth century, dominated by Trumbull's finely designed church, is a diminutive Williamsburg, a place of patriotic pilgrimage.

In 1808 the disappointed portrait-painter, with his socially unacceptable English wife, was off to London again. He did not return to this country until 1815, having been held up during the long hostilities of the War of 1812. The British had burned the Capitol at Washington and plans for its rebuilding were already underway. The sixty year old Trumbull lost no time in seeking a commission to decorate the new building with enlargements of his early historical pictures. He was abundantly successful, securing half the available space in the Rotunda. He eventually received $32,000 for his four heavy-handed replicas, with figures the size of life. Though these enlarged easel pictures did him no credit the part he played in securing a domed building for the Capitol does. "I had hardly commenced my first painting," he wrote in his Autobiography, (p. 265 ff.) "when I received a letter from Charles Bulfinch, Esq., who had been recently appointed to succeed Mr. Latrobe as architect of the public buildings at Washington." This he answered (25 January 1818) objecting vigorously to the "idea of abandoning the original plan of the capitol, so totally as to give up the circular room, and the grand dome, conspired to stimulate the imagination. An idea has occurred to me, which I think will preserve both, and unite originality, utility, simplicity, and grandeur, with economy. It is difficult to explain my meaning fully, without drawings; I am, therefore, endeavoring to put my plan on paper." This was followed by another letter three days later, "I feel the deepest regret at the idea of abandoning the great circular room and dome ... my apology for presuming to offer any idea on the subject of architecture, of which I profess to have no other than a very superficial knowledge..." He then proceeded to explain in great detail his two schemes and continues: "permit me to add, that the great circular room and dome, made a part of the earliest idea of the Capitol, as projected by Major L'Enfant, drawn by Dr. Thornton, and adopted by General Washington. You will see it so marked on the plan of the city engraved by Thackera & Vallence, in Philadelphia, in 1792. If there be a dislike to M. Latrobe's plans, that dislike cannot apply to this part of the building; he only followed the original intentions." (Autobiography, pp. 266-272; the original of this letter and the one quoted before are both in the Library of Congress). In a letter to Trumbull (17 April 1818, in the Library of Congress) Bulfinch speaks of preparing different sets of plans, one "according to your idea - these drawings are exhibited to the President (Monroe), who could devote but a few minutes to their consideration ..." Trumbull wrote Bulfinch in July, in answer to a letter from the architect, stating that he was relieved "from

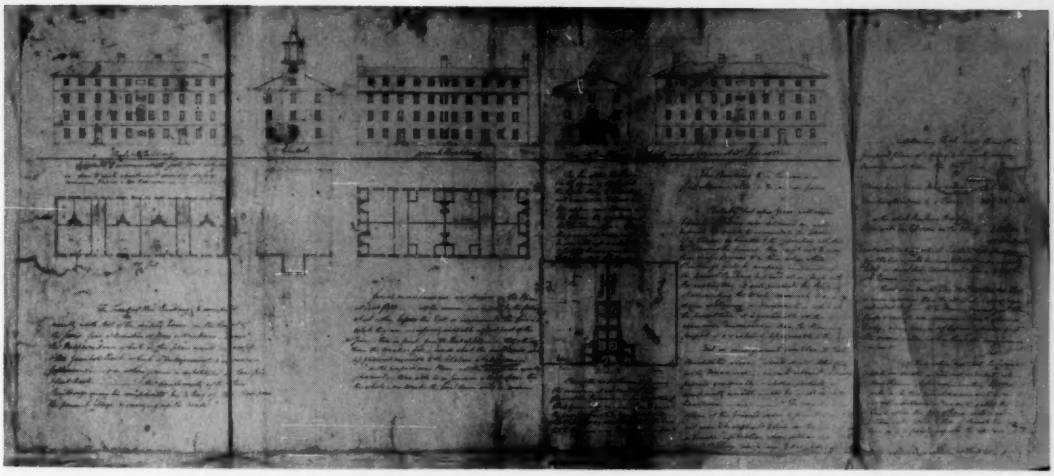


Fig. 1. PLAN FOR THE DEVELOPMENT OF YALE COLLEGE, by John Trumbull, 1792
Courtesy of the Yale University Library.

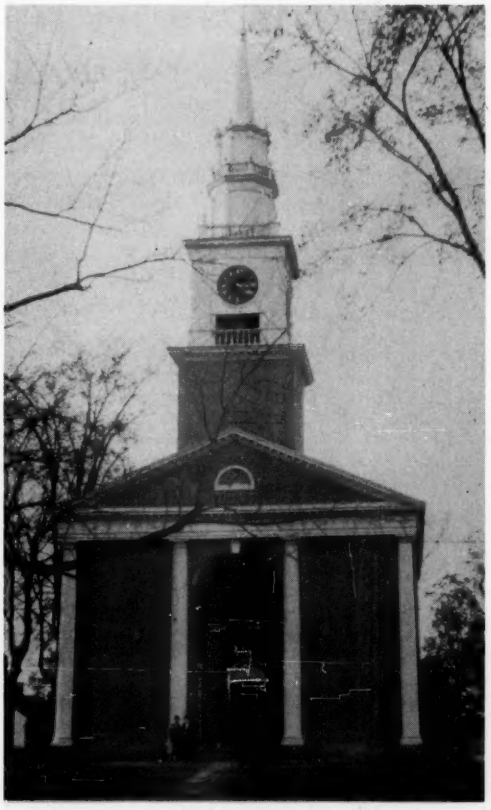


Fig. 2. MEETINGHOUSE, Lebanon, Connecticut, by John Trumbull, 1804-1806, (as it appeared before 1938) Snapshot by the author.

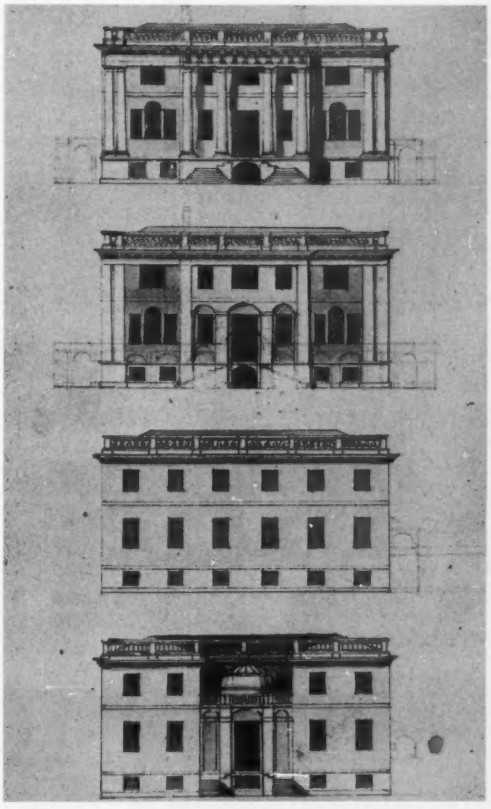


Fig. 3. DESIGNS FOR A HOUSE, by John Trumbull. Courtesy of the New-York Historical Society (Alexander J. Davis Collection)

Fig. 4. THE TRUMBULL GALLERY on the Old Yale Campus, designed by John Trumbull, 1830-1831. (Photograph 1868 or before). Courtesy of the Yale University Art Gallery.

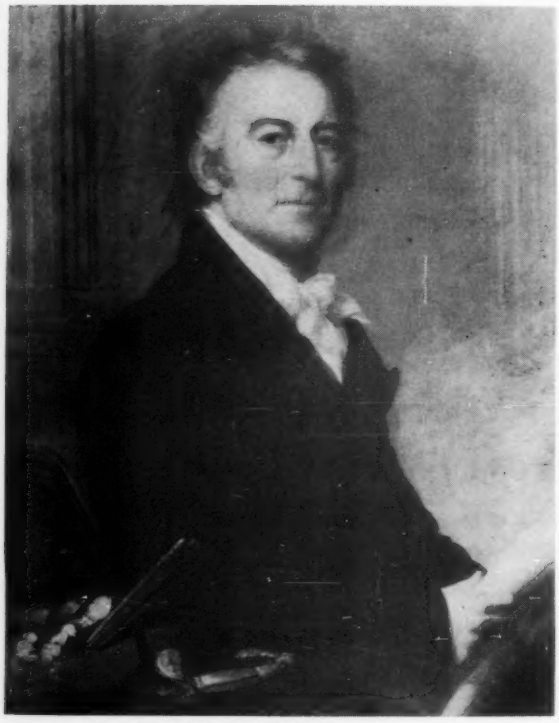
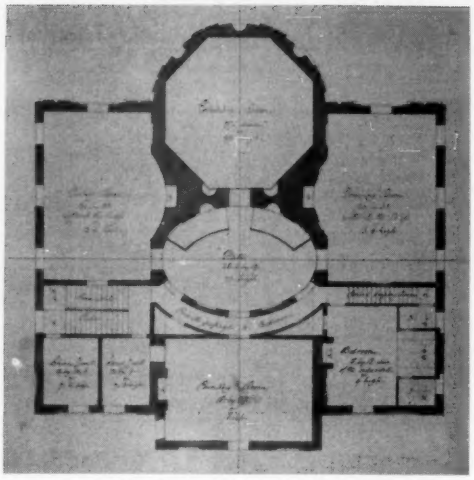
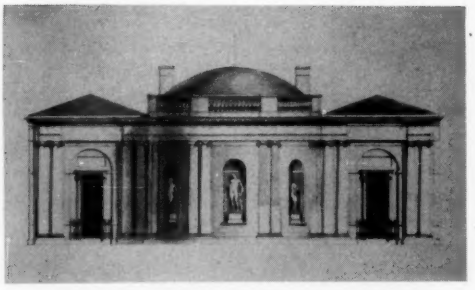


Fig. 5. JOHN TRUMBULL, at sixty-five, painted by Samuel Lovett Waldo. Note architectural setting, the palette and Revolutionary sword. Courtesy of the Yale University Art Gallery.





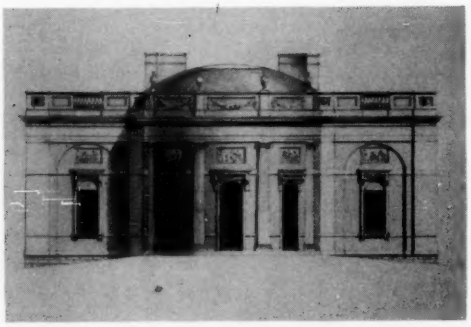


Fig. 6. DESIGNS FOR A HOUSE, by John Trumbull. Courtesy of the Yale University Art Gallery.

no slight anxiety, inasmuch as your plan has saved the grand room ...". His final comment, as the correspondence closed (Autobiography p. 273) was that Bulfinch had "saved the dome".

In the Davis papers in the New-York Historical Society, cited above, there are two plans (1818) for the basement of the Capitol in Trumbull's hand. Professor Silliman of Yale states (in his Note Book of 1858) that Trumbull "was much in consultation with Mr. Bulfinch, the architect of the Capitol at Washington. A model has been preserved in the Trumbull Gallery of stair cases for the building and of the position, form and structure of the apparatus for heating and for ventilation" - which model has long since disappeared. From the foregoing one gathers that the practical Yankee was also something of an engineer. How much Trumbull played in the welter of conflicting ideas over the rebuilding of the Capitol is difficult to say (see Charles H. Place, Charles Bulfinch, Boston, 1925).

Trumbull's next concern with architecture was in connection with the New York (later called the American) Academy of Fine Arts, which had been organized in 1816 and had temporary quarters in the old Alms House in the (New York) City Hall Park facing Chambers Street. Trumbull had long been President - too long for the younger artists. The rebels, led by the painter-scientist, Samuel F. B. Morse, tired of the aged president's, arrogant tactics, revolted, and founded, in 1825, the National Academy of Design. In 1830 the faction-torn American Academy moved to Barclay Street (which runs off Broadway to the west of City Hall Park). The plans for the plain brick building (approximately fifty by forty feet and three stories - forty feet - high and the construction estimates ($7940 for carpentry and masonry) are in the New-York Historical Society, of which Trumbull was Vice President. The Academy stood in the rear of Dr. David Hosack's Vesey Street residence. Trumbull gives the address as number 8 Barclay Street, but the City Directories of the period as number 8½. The upper story was severely damaged by fire in 1837 and again in 1839. The Academy was dissolved in 1841 and the building survived but a few years. It would be interesting to know what it looked like. (The writer has been unable to find a view of the American Academy of Fine Arts in the many prints of lower Manhattan Island of the period). The seventy-four year old amateur architect was a good designer.

Trumbull's last architectural effort was the Gallery at New Haven which bore his name (Pl. II, Fig. 4). As a part of an elaborate agreement, engineered by his nephew-in-law, Professor Silliman, Yale College bound itself to pay the aged artist - whose life expectancy was embarrassingly misjudged - an annuity in exchange for his Revolutionary scenes, miniatures and portraits, most of which had been executed thirty or forty years earlier. As part of the bargain Trumbull designed his own "Pinacotheca", with certain suggestions from Town and Davis, well-known New York architectural firm. Ithiel Town, who for years lived at no. 4 Hillhouse Avenue, New Haven (a house which still stands, little changed) was an old friend of the painter's and Davis, as we have seen, was his self-styled "pupil." The Greek Revival "Trumbull Gallery" was built on the old Yale Campus in 1831 at the cost of five thousand dollars. The basement was devoted to Professor Silliman's

"Cabinet of Minerals". The pictures were hung against a Pompeiian red background in two, sky-lit rooms, each thirty by thirty feet and fifteen feet high, on the second floor. The Gallery, opened to the public in 1832, had the distinction of being one of the earliest art museums in the English-speaking world. (The Trafalgar Square building for the National Gallery, which was founded in 1824, was not opened until 1838, the first year of Victoria's reign).

Trumbull who dramatised himself throughout life, did so in death. He was buried, according to his wish, beneath his Gallery directly below his great portrait of Gen. Washington, for whom he had served as Aide. Silliman commented: "Some centuries hence when the firm stones of the Trumbull Gallery have fallen those who dig among the ruins will discover the tomb in this obscure crypt and will be warned not to violate it when they read . . . the inscription . . . 'The Tomb of John Trumbull ... the Patriot Artist and the friend of Washington'". Man, however, is ever the despoiler. In 1868, thirty-four years after the opening of the Trumbull Gallery, the pictures - and the bodies of Col. and Mrs. Trumbull - were removed to a new and larger building, designed in Ruskinian Venetian Gothic by Peter B. Wight of New York (the architect of the 1866 National Academy of Design building in New York - in the manner of the Doges' Palace). The charming, classical Trumbull Gallery was made over into the office of the College Treasurer in 1868 and windows pierced in its walls. In 1901, the year of Yale's bicentennial celebration, an appreciation of Trumbull appeared in print - John Trumbull and his Work by Professor John Ferguson Weir, Dean of the Yale School of the Fine Arts - and Trumbull's Gallery was demolished.

Professor Silliman, "having already passed several years beyond the prescribed boundry of human life," recorded (in 1857): "The plan and elevation of the building for the Trumbull Gallery were furnished by him (Trumbull) and there can be no doubt that had he devoted himself to architecture he would have taken the first rank in that department of the arts. He had a very accurate eye for form and proportions and a quick & delicate perception of beauty. His judgment was much valued in questions relating to architecture and architects were fond of his society.

"The late Mr. Ithiel Town, the eminent and self taught architect of New Haven, was often in his chamber & they passed many joyous hours in devising splendid public buildings and adorning them with grand & beautiful pictures," - a pleasant picture of John Trumbull, amateur architect.

Yale University

Editor's Note: Professor Sizer is engaged in writing the life of John Trumbull, Patriot-Artist. His Works of Colonel John Trumbull, Artist of the American Revolution, will be published in the spring of 1950 by the Yale University Press.

THEORY OF CITY FORM, PAST AND PRESENT.

Hans Blumenfeld

Physical City Planning - as distinguished from socio-economic Planning - designs the spatial framework for the life of urban society. It requires the abilities of the architect and engineer. But is this work identical with the work of the architect who designs an individual building; does it differ only in scale? Is City Planning and City Building a Fine Art?

Architects have usually and normally approached city planning from the aesthetic side. Impressed by the beauty of old towns, as contrasted with the ugliness of most modern cities, they have tried to learn their secret. The more they studied, the more they were puzzled by the question: is this really the beauty of a work of art, consciously designed, or is it rather the beauty of an organic product of nature?

Some students of the subject have made a distinction between "planned" and "grown" cities. The validity of this distinction is very relative: there are some elements of planning in every city, and none has ever for any length of time followed the original design in every detail. It is a question of the degree of consciousness; which needs have been foreseen, which elements have been planned beforehand, and which elements have been adapted to unforeseen needs by a slow process of trial and error (Pl. III, Fig 1)?

The extreme cases fall outside the sphere of city planning. On one side we find complexes such as an Egyptian temple, a Roman villa, a castle or a monastery which are indeed designed by the same process as is a smaller individual building; they are large corporate units, conceived as a whole and divided into functionally different parts. The "ideal" fortress cities of the Renaissance, like Palma Nuova, are close to this extreme (Pl. III, Fig. 2a). On the other hand we find settlements where each settler built his house where he pleased, without thought of other buildings, the sum of indifferentiated individual farms adding up to a village. Countless villages in all continents represent this type; they have indeed grown like products of nature. Cities have been built which differ from such villages merely in size, as some cities in the Islamic Orient. They consist of an agglomeration of individual houses in garden compounds surrounded by mud walls. Only enough is left open between these walls to provide an access lane to every court so that these lanes form a pattern reminiscent of the small blood vessels feeding a piece of tissue (Pl. III, Fig.2b).

Theory has tended to emphasize one of the two poles: either the city as a whole, as one big unit, or the city as a sum of many small units. "A city is an organism where nothing counts before the collective interest expressed by its law," says Pierre Lavedan, eminent authority on the history of city planning. But the "Town-planning Chart of the C.I.A.M.", leading organization of modern architects, proclaims: "The point of departure for all town planning should be the cell represented by a single dwelling, con-

ceived together with similar cells so as to form a neighborhood unit..."

Both sentences, while true, are incomplete; only taken together do they define the specific nature of the town, which differs from a castle or monastery by being a sum of many social units, like the village, and which differs from the village by being a whole which is divided into functionally different parts, like a monastery or a self-contained estate.

The functional difference between town and village has been usually sought in the difference of industrial and agricultural production. Many cities, however, have had an agrarian population, and industrial villages are frequent. Historically, division of class rather than division of labor appears to be the characteristic of the city. It was the seat of power where the ruling aristocracy was concentrated; from here they dominated the surrounding countryside, entrenched behind the city walls. The Greeks had a word for this process of concentration; they described the founding of Athens by Theseus, and of many other cities, as "synoikismos"-"together-housing". An exact parallel to the mythical feat of Theseus is graphically described in a saga of a different people, living at a different time and on a different continent, but of a comparable stage of cultural development, the Soninke on the upper Niger. The saga says:"...All the 80 princes and many knights came to Annalya Tu-Bari and stayed in her city. Annalya Tu-Bari's city grew and grew. Annalya Tu-Bari ruled over all princes and knights of the wide country around her town."

Military reasons, security against attack, were also originally the strongest factor in the first conscious act in the formation of a city, the selection of a site, which in turn becomes one of the main determinants of the shape of the city. Hilltops are often selected, like the Akropolis of Athens or the Palatine of Rome, or islands, as at Tyrus, Paris, or Mexico. Even more typical is what has been aptly described as a "cape situation": a piece of land protected by water or by steep slopes on three sides but connected with its "hinterland" on the fourth. New York and Boston originated that way, as did Lyon and Hamburg in the old world.

Security remained a prime consideration. But as cities grew stronger and the art of fortification developed, security became less dependent on natural conditions. Instead of retreating from the highways of the world into the inaccessibility of the mountain top, the city approached them in order to dominate them. Islands and capes served this purpose well; other sites were selected because they dominated land or water ways, especially the crossing of two such ways, a ford or a bridge. Out of these typical situations developed typical forms. Towns built on a river bank, as far apart as medieval London, Bilbao, and Danzig, show the same pattern, consisting of a number of long narrow blocks between parallel streets perpendicular to a broad embankment.

When at a later time considerations of security receded to the background, accessibility remained a prime consideration in the selection of a site; but again the very development of man-made means of transportation diminished the importance of natural routes. Instead of the caravan routes

Fig. 1. Puri, India, Market Place.

The rows of stands, paralleling the edges of the square, show a city in the process of growth. Frequently such temporary rows become permanent streets. Without having been "planned", they follow a logical pattern.

a

b

Fig. 2. Extreme examples of "planned" and of "grown" cities.

a. Palma Nuova, Italy. Some cities, like this 16th century fortress town, have been designed and built as units planned in every detail, in the same way as individual buildings are planned and built.

b. Namangan, Central Asia. Other cities have grown like products of organic life; in this oriental town the streets and lanes form a pattern reminiscent of blood vessels feeding a piece of tissue.

PLATE IV

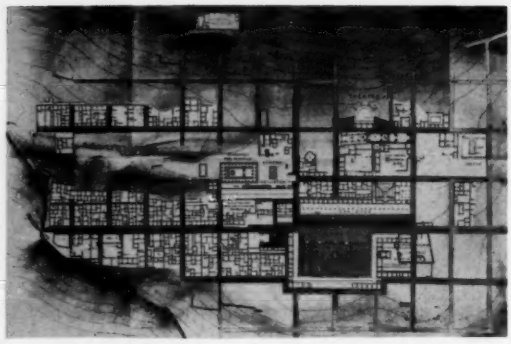
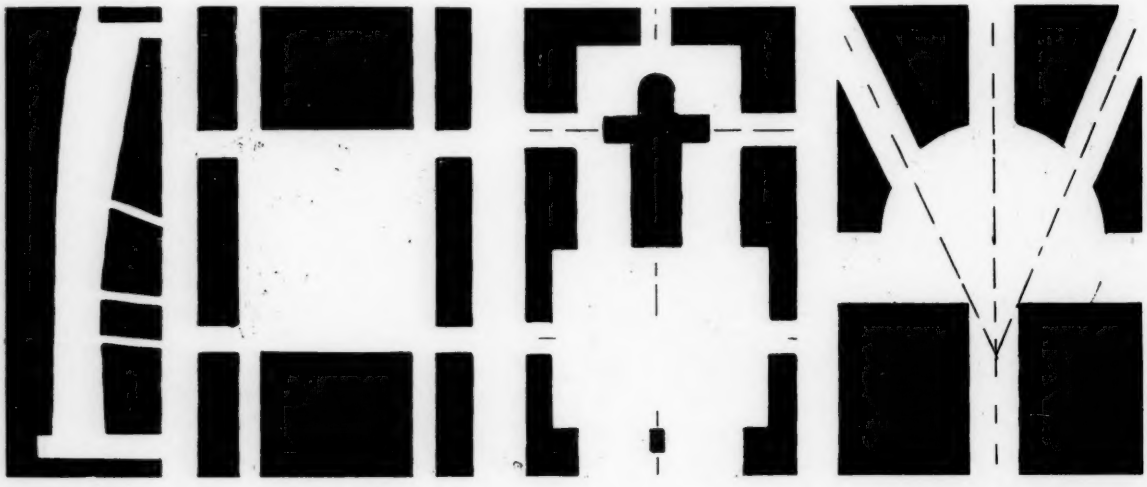


Fig. 3a. Priene, Asia Minor, 300 B.C.

In classical Greece the buildings, not the streets, were the dominant elements of the city plan. Therefore the squares have no axial relations to the streets. The agora, or market, of Priene, is a colonnaded horseshoe built on one side of the main street, asymmetrical to the hall which flanks the other side of the street.

Fig. 3b. Rome, Piazza del Popolo, 1600 A.D.

The principle of axiality, heritage of Imperial Rome, has dominated western city planning since the Renaissance. The spires of the two churches which flank the entrance to the Corso in Rome are symmetrical to the street, not to their churches.



4a

Neustadt in Bavaria, Germany, 13th century.

4b

Sauveterre de Guyenne, France 13th century

5a

Livorno (Leghorn) Italy, 17th century

5b

Kalinin (Tver) Russia, 18th century

TWO METHODS OF FORMING SQUARES.

Fig. 4. In the medieval city, as in classical Greece, the city plan is essentially a block plan. Squares are formed either by a set-back of blocks (4a) or by leaving one or more blocks vacant (4b).

Fig. 5. In all cities following the Renaissance pattern, as in Imperial Rome, the city plan is essentially a street plan. Squares and monuments are axially related to the streets in a simple (5a) or sophisticated (5b) pattern.

and rivers determining the location of the city, the cities determine the net of highways, canals, railroads, and airports. Other factors, natural resources, health, or convenience, may determine the choice of the site. Water and food, for instance, have always been important in selecting a site; sacred spots have produced towns like Olympia, Lhasa, or Lourdes. In mining towns, or in health resorts, typical sites give rise to typical forms.

With this interaction of site and function, towns may survive and grow long after their original reason for existence has disappeared or been destroyed - often destroyed by their very growth. Moscow was originally built in a typical "cape" situation at the confluence of the Neglinnaya creek and the Moscow river. Under the protection of this triangular fortress - the Kreml - merchants settled at the river crossing. Roads converged towards this city; the princes, drawing wealth and power from the growing trade, gradually extended their rule over all of Russia. The capital became the center of a net of railroads, and the center of railroads attracted industries. Finally canals were built to connect the great industrial city with the sea. Long has the Neglinnaya creek been covered and the visitor will look in vain for the "cape" that prompted people to select this site, but the city they founded has lived on and created and recreated its own preferential site.

Manchester gained importance as the seat of the textile industry. As such it attracted the textile trade and factories building textile machines. Soon the textile industry could not compete with the wages paid by these new sources of employment and moved out into the villages of Lancashire. The very growth of the city had destroyed its original reason for existence, but the city, once established, had created a new function.

This interaction of site and function determines ultimately the form of the city. In the endless variety of existing forms two basic schemes stand out: the radio-centric and the gridiron. Both have a long and varied history.

The circle, as the shortest line enclosing a given area, is the logical form where security is paramount and natural boundaries are lacking. The herdsman sets up a circular pen for his cattle, and the nomadic Scyths adopted the same shape for their camps, with their wagons forming the enclosure. The Kafirs in South Africa, the Western Slavs in Central Europe built their villages the same way, with the huts surrounding a central commons. When the nomads of Western Asia founded empires, their capitals were conceived primarily as fortresses with the emphasis on the walls and gates. The circular form, now sanctioned by religion as an image of the cosmos, is praised in literary descriptions of Ekbatana, Jerusalem, and Baghdad, and sometimes, as in the Hittite capital of Sendshirli, the wall actually describes a perfect circle.

As the cities dominate the surrounding countryside, important roads converge towards their gates. Transportation is added to security as a second element determining the form of the city. The combination of city wall and converging streets creates the radio-centric plan. The towns of medieval Europe, being primarily fortresses and markets, developed this plan,

and they have preserved the original pattern down to this day. Thanks to their inherent simple logic, the old forms could serve new functions. Highways, subways, and railroads radiate from the city center; railroad stations correspond to the gates. The circular elements proved equally useful; it has been said that the walls have influenced the city plan more strongly after they were torn down than while they were standing. Their place was often taken by circular highways, sometimes by circular railroads, protecting the city against through traffic, as the walls had once protected her against enemy attack. Or they are transformed into a green belt, easily accessible from any point inside the circle, as the walls had been easily accessible to the burghers defending their town.

If the radio-centric scheme was born from considerations of security and modified by the needs of transportation, the gridiron scheme owes its origin primarily to the convenience of tilling and building, sometimes to ways of transportation. The radio-centric scheme is kin to the castle; the collective element, the common enclosure, is primary, and the city plan is developed by division of the common territory. The gridiron plan is built up out of an addition of individual lots, like the village. The shape of the lots is determined by the shape of the fields, square in mediterranean countries, oblong in northern Europe.

The importance of the plow in foundation rites of cities in many cultures confirms this dependence of city planning on the division of fields. The agricultural civilizations in the great valleys of the Nile, the Indus, and the Hoang-Ho all produce cities on a strictly rectangular plan. In our own country, the division of all land west of the Ohio into square miles furnished the framework for the division of our urban territories into square blocks. Wherever allotment of land to the individual settlers has been the prime consideration, the rectangular pattern has developed, the lots adding up to blocks, the blocks adding up to the city.

Inclined as we are today to think of speeding traffic wherever we see a straight street, we read all these plans as street plans. There is plenty of evidence however to show that most of them originated as block plans. In ancient Crete and early Greece the streets and alleys were simply what was left over between the houses, and it was only the roughly rectangular shape of the houses that gave some element of regularity to their pattern. In the strictly rectangular scheme which the later Greeks regarded as an invention of the philosopher Hippodamos the blocks have definite proportions, but the streets have not. The way squares are laid out also shows that the streets were not regarded as the determining elements of the plan. Never in classical Greece do squares have any axial relation to streets. The agora, or market, of Priene is a colonnaded horseshoe built on one side of the main street like an individual building (Pl. IV, Fig. 3a). On the other side of the street is another public building which is longer than the agora. In medieval cities the squares are also never centered on streets, but are formed either by widening a street or by leaving a block unbuilt (Pl. IV, Fig. 4).

In some cases however not the lot but the street has been the originator of the plan. Even in the elementary village form both types go side by

side. In the European middle ages, when virgin soil was settled, each settler was allotted an equal width at the edge of the forest or on the bank of the river and could extend his property in depth as far as he could cultivate the land. Similarly, in the early medieval towns, the houses were built on the street, and the lots stretched out back of them through the whole depth of the block. In our country the founders of Detroit followed the same procedure, extending their property inland in parallel strips.

Alongside this type of "row village" are to be found "street villages". In these the houses are built close together on both sides of a broad street which serves as a commons while the acres are scattered over the village lands. Sometimes around such a street there would grow a town; and if it was crossed by a similar street, a gridiron pattern might develop spontaneously.

It is however the street endowed with a spiritual significance that has acted most powerfully as a generator of the city plan. The broad procession street leading up to the temple in ancient Egypt became the backbone of the city; so did the "cardo" and "decumanus" of the Roman city leading from the "templum", the point where the priest had founded the city, to the four cardinal points. This cross dominates the city plan; the unity and dignity of these dominating streets is later emphasized by uniform colonnades and by triumphal arches as "points de vue", as in Palmyra. The same principle of axiality shapes the symmetrical plazas.

This concept has dominated western city planning since the Renaissance, monumentality again serving, as in Imperial Rome, to express the unity and majesty of the state. The street fronts are related more to the streets they enclose than to the buildings they shelter. On the Piazza del Popolo in Rome the entrance to the main street, the "Corso", is flanked by two churches; their bell towers are symmetrical not to the churches, but to the "Corso" (Pl. IV, Fig. 3b, 5).

In the modern gridiron the distinction between block plan and street plan is pointless. The right angle and the straight line, convenient for the division of land, are equally convenient for the erection of buildings, for the laying of pipes and rails, and for the regulation of traffic by traffic lights. As was the case with the radio-centric scheme, simple geometric forms have justified themselves as a permanent framework for varying functions.

The original function however has permanently determined the basic character of the scheme. In the radio-centric city, conceived as a common enclosure subsequently divided into parts and developed from the outside in, the outer contour is clearly defined, while the interior street pattern is indefinite (Pl. V, Fig. 6a). In the gridiron city, conceived as a sum of individual lots adding up to a city, developing from the inside out, the interior pattern is clearly designed, but the city contour is indefinite (Pl. V, Fig. 6b).

This contrast is visible also in the aesthetic concept of the city as evidenced in paintings. Medieval painters conceive the image of the

fortress city as a collective unit presenting its silhouette as seen from outside, enhanced by its isolated location on top of a hill or surrounded by water. The painters of Pompeii, as those of the Renaissance look from inside the city at individual streets and squares (Pl. V, Fig. 7).

The 19th century gridiron plan of our cities has been designed without any mental image of the body of the city and the buildings were constructed without relation to any design of the city as a whole. No one could guess from a map of Manhattan from which field on this checkerboard rises the phantastic silhouette of the city's skyscrapers.

Yet it is possible to discern a definite pattern of the modern city which has gradually superimposed itself on the ubiquitous gridiron. This pattern is essentially a product of the growth of transportation which at different stages developed centralizing and decentralizing tendencies.

In the first stage inter-urban traffic was revolutionized by steamships and railroads. Where they met, and only there, could modern industry assemble the masses of coal - its driving power - , of raw materials and food which it needed, and only from these points could it easily ship its products to distant markets. Factories attracted workers, and the presence of many workers of various skills created favorable conditions for more factories.

But while steamships and railroads carried huge masses of goods and passengers to and from the far corners of the earth, traffic within the city moved, as of old, on foot or by horse and buggy; and while the telegraph carried news around the globe within a few seconds, communications within the city were still carried by messengers. So factories and offices and dwellings all tried to be close to the center of the city, crowding each other.

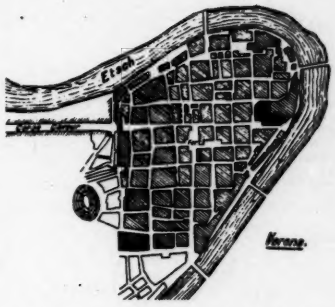
Only after several decades did the technical revolution reach the interior communications of the city. Suburban railroads, street cars, elevated and subways, buses and automobiles, as well as the telephone, overcame the distances within the urban area as steamships, railroads, and telegraph had already succeeded in overcoming distances between cities. While inter-urban traffic continues to act as a centralizing force, concentrating business and population in metropolitan areas, intra-urban traffic acts as a decentralizing force within the limits of these areas. The densely crowded agglomeration of the 19th century, with its concomitant, the phantastic skyrocketing of urban land values, turns out to have been a short-lived passing phenomenon necessitated by the time lag between the transformation of inter-urban and intra-urban traffic respectively; it was bound to disperse once this lag was overcome.

To disperse, but not to dissolve. Sources of power, raw materials, and markets, may be equally accessible also outside the metropolitan area, but it is only here that employes and employers have a wide range of mutual choice, as skills become ever more varied and specialized. "Specialized division of labor forces workers to live in big cities" remarked the German economist Justus Moeser as early as the eighteenth century. The modern

6a. Middelburg, Netherlands

The radio-centric city plan starts from the common enclosure of the city territory which is thereafter subdivided into blocks and lots.

Consistent with this development from the outside in, the outer contour is clearly defined, while the interior pattern is indefinite.

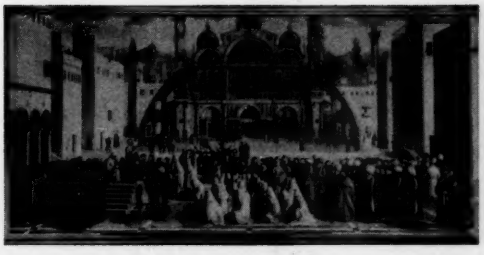


6b. Verona, Italy

The gridiron plan starts with the individual lots which add up to blocks; the blocks in turn add up to the city.

Consistent with this development from the inside out, the interior pattern is clearly defined, but the city contour is indefinite.

a



b

7. Two different functional concepts of the city find their contrasting visual expression in these two paintings, both works of 15th century Italy.

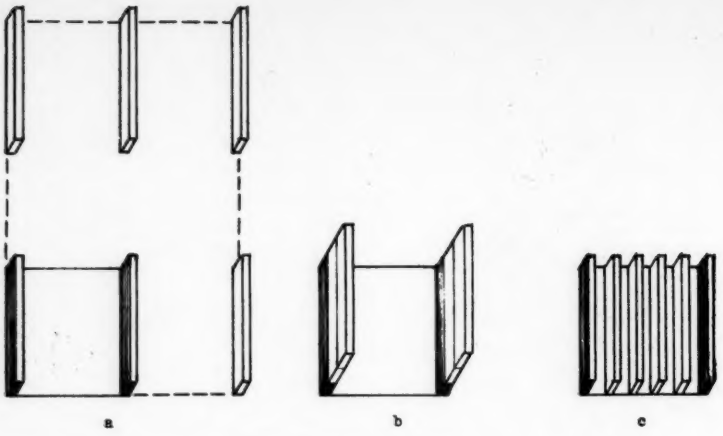
a. Francesco Pesellino

The city as fortress, conceived as a collective unit, presents its silhouette as seen from outside, enhanced by its isolated position on top of a hill.

b. Gentile Bellini

The city as a place of habitation, conceived as the sum of its buildings, is seen from the inside as a sequence of streets and squares, spreading out over the plain.

PLATE VI

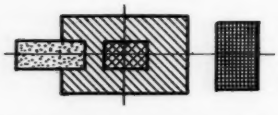


8. THREE WAYS OF CITY GROWTH.

a. Horizontal Growth
Area increased
Height and Coverage not changed

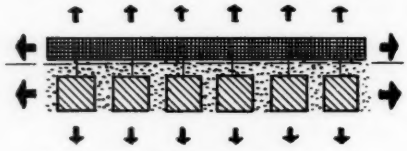
b. Vertical Growth
Height increased
Area and coverage not changed

c. Interstitial Growth
Coverage increased
Area and Height not changed



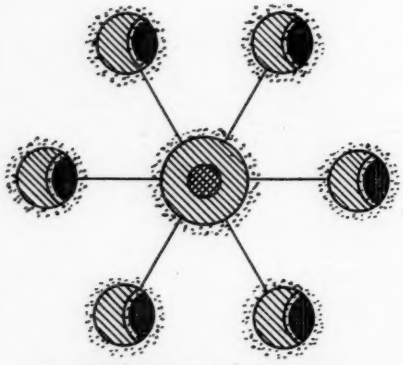
9. SCHEME OF CONCENTRIC CITY

Based on business center; industry not an organic part of scheme.
Industry located on leeward side.
Green areas on windward side and interspersed throughout city.
Short or moderate distance to business center; long distance to industry.
No provision for growth.



10. SCHEME OF RIBBON CITY.

Based on industry; no provision for business center.
Industry located on leeward side.
Green areas between industry and residences and between residential neighborhood units.
Short distance to industry.
Growth both by accretion to existing industrial and neighborhood units and by foundation of additional units.



11. SCHEME OF CENTRAL CITY WITH SATELLITE CITIES.

Function of central city not clearly defined; satellites based on industry.
Industry located on leeward side of each satellite.
Green areas in each satellite between residences and industry and around each satellite.
Short distance to industry; long distance to central city.
Growth only by foundation of new satellites; no provision for growth of business center.

12. STAR - SHAPED CITY.

Based on business center and industry.
No relation to direction of prevailing winds.
Green areas between residences, industry, and business center.
Short or moderate distance to industry and to city center.
Growth of residential and industrial areas by accretion; limited growth of city center possible.

metropolitan area is primarily a labor market; it extends as far as people can commute daily to and from work, and only that far.

Within this area growth proceeds in three dimensions: horizontal, vertical, and interstitial. (Pl. VI, Fig. 8). As long as intra-city traffic moved only by foot or hoof, possibilities of horizontal and vertical expansion were strictly limited. Growth was mainly interstitial, filling up every square yard of vacant land left between buildings until the city became a solidly built up amorphous mass of brick. With the advent of the elevator and the steel frame the vertical growth of skyscrapers began, leaving interstices of half developed and vacant lots. Suburbs spread out horizontally along street car and bus lines and around suburban railroad stations, surrounded by wide open spaces. But with the development of the private automobile these interstices between the suburbs began to be filled in, tending to make the outskirts as amorphous as the central area, though less densely settled. In a more limited way the story of the opposite action of inter-urban and intra-urban traffic was repeated by the suburban nuclei: population concentrated here when transportation between suburb and central city was established, and dispersed when transportation developed within the suburban territory.

As the network of highways around the city grows denser, super-highways are cut through and form the backbone of a new linear development. Should commuting by airplane become general, we may see the development of new nuclei around suburban airports.

Every new means of transportation brings about horizontal (or vertical) growth and a greater differentiation between developed and undeveloped parts; the city begins to look like a unit divided into structurally distinct parts. But the same development of transportation gradually fills the interstices, and the city seems to consist of an addition of many identical elements. Foundation of new nuclei and accretion to old ones alternate and supplement each other as they have done through the entire history of city growth.

Any analysis of city form describes but a cross section through this incessant flux at a given moment. Its present structure resembles a sequence of concentric circles. It is determined by the location of work and dwelling places, which for the first time in history have become universally separated, and is modified by the functions of recreation, servicing, and transportation. At the core is the business center: offices for the management of private and public business which have to be close to each other and easily accessible to all inhabitants of the area and to visitors from outside. Retail stores and places of amusement, serving the entire area and places beyond, hotels and apartment hotels are to be found in or immediately adjacent to this area. Surrounding this core is the older part of the city, now inhabited by the lowest income group, interspersed with factories and warehouses. Subsequent widening concentric rings, consisting of gradually newer and more spacious residential sections, are occupied by gradually wealthier income groups. Somewhere beyond the belt inhabited largely by skilled workers new factories are built on ample cheap land. However, they rarely form a complete

circle, but tend to concentrate near to waterways and railroads on level sites. Inversely, the high class residential sections prefer those parts of the periphery which are favored by natural beauty and are located to the windward of sources of smoke and dust. Towards these preferred residential sections the retail stores, hotels etc. tend to stretch out from the business center, while wholesale business and warehouses grow towards the docks, railroads, and industries. Thus the concentric structure is modified by wedge-shaped developments.

Relation between place of residence and place of work within the metropolitan area is not determined by a simple relation of nearness, but by the characteristic polarity between place of production and place of marketing. Dispersed production requires a central market where all producers meet; on the other hand dispersed markets can be efficiently served only by centrally located producers. Thus in the Lancashire cotton district the weavers, who supply the great wholesalers in Manchester, are located in small towns on the periphery of the area; but the spinners, who supply the weavers, have their mills in a narrow belt around Manchester. Similarly the white collar workers, who can find a market for their skills exclusively in the business center, may chose their residence at any place on the outskirts from which they can commute; but the unskilled workers, who sell their labor at unsteady jobs in the factories anywhere at the outskirts, and occasionally in the center, must seek a central location from which any part of the area can be easily reached.

These tendencies are at work in all contemporary cities, but everywhere they clash with remnants of a physical shell built up under different conditions. The ensuing chaotic state with its numerous and serious evils has given rise to many proposals for an entirely new and different city pattern. As was the case with "ideal" cities of the past, these patterns are usually derived from the satisfaction of one or two functions, under neglect of others.

When the electric street car began to carry city dwellers beyond the tight-packed agglomeration that was the 19th century city, a Spanish engineer, Raphael Soria, proposed the "ciudad lineal", the "lineal city" consisting of rows of houses built in the open country on both sides of a trolley line which would take them to their place of work. A generation later, Russian architects based a similar scheme on the development of the automobile; these "disurbanists" visualized single family houses on ample pieces of land on roads rambling through the countryside, their inhabitants driving to factories scattered here and there in suitable locations. Others, "urbanists" like Le Corbusier believe that the automobile, in combination with the express elevator, makes possible a rational solution of the modern metropolis. Le Corbusier's "radiant city" with its skyscrapers in the center, elevator apartment houses in an inner belt, and lower houses on the periphery, is essentially a rationalization of the existing concentric pattern of the typical metropolis (Pl. VI, Fig. 9).

While Le Corbusier's city is developed around the business center, with industry relegated somewhat casually to one side, Russian city planners

during the period of rapid industrialization of their country conceived a scheme consisting exclusively of factories and workers' settlements, dismissing a commercial center as obsolete. Factories and settlements were grouped in parallel bands, with a protective green strip between them. Thus workers normally live in walking distance from their place of work, while a railroad, running between the factory and the green zone, connects the various factory-settlement units. Growth by erection of new factories is possible by extension of the line, while growth of the individual factory and settlement may occur perpendicular to the line in opposite directions (Pl. VI, Fig. 10).

Contrary to this growth by gradual accretion Ebenezer Howard in England had proposed growth by deliberate foundation in his book "Garden Cities of To-morrow". Each garden city was to be a self-sufficient unit containing both residences and places of work, within walking distance from each other, and surrounded by a permanent agricultural belt. Each city was to be limited in size, like the cities of ancient Greece and the middle ages, and the need for expansion was to be satisfied by the foundation of new garden cities, even as the Greek cities expanded by founding colonies (Pl. VI, Fig. 11).

Howard's ideal has found wide acceptance in somewhat modified form as the "satellite city". Eliel Saarinen for instance advocates "organic decentralization" of the big city by gradual transfer of its industries and population into such satellite cities, each being a self-contained unit of definitely limited size, while the surrounding open country could easily accommodate whatever traffic arteries might be needed.

In its basic approach this idea is kin to the concept of the early middle ages and the 18th century which created the gridiron plan. Again the city - or metropolitan area - is conceived as the sum of identical units with indefinite relations to each other; only that these units are no longer city blocks but highly organized communities with the open spaces between them taking the place of the simple streets of the old gridiron. Where it is not modified by topographical conditions, the completely decentralized city would assume a checkerboard pattern on a gigantic scale.

Actually the unity of the metropolitan area, dominated by its center, asserts itself strongly; in practice most "garden" or "satellite" cities are mainly "dormitories" for the central city. The basic idea of the garden city as a balanced and protected community has, however, deeply influenced plans for the reconstruction of existing cities by dividing them into a number of self-contained "neighborhoods". Modern planners try to break up the amorphous agglomeration of city blocks into units organized around the common institutions of daily life - school, playground, shopping facilities - and protected from through traffic. This unit, planned from the inside out, meets with the concept of the "superblock" or "precinct" as the English like to call it; the superblock, however, is planned from the outside in, by dividing the entire city territory by widely spaced high-speed traffic arteries which are to replace the dense net of narrow streets inherited from the horse-and-buggy age.

Opposed to all these adherents of various theories of the ideal city who believe that existing cities could and should be gradually transformed in harmony with a preconceived pattern is the school of "practical" planners who scoff at any attempt at long-range comprehensive planning, convinced that human foresight can never prevent the evils constantly produced by the inpredictable city. They limit themselves to immediate practical objectives, to the correction of evils that already have become apparent.

This school of hindsight planners, at present ably and audibly represented by Mr. Robert Moses of New York City, might well point out that most preconceived "planned" cities of the past have been failures and that the best historical examples of city planning have been created by gradual adaptation to ever changing needs. However, conditions have changed. In the old days most buildings were constructed of wood or clay, and streets were just dirt roads; decay was rapid and physical change easy, while social change was slow. Today our buildings of brick, steel, and concrete and our well-paved streets with their subterranean labyrinth of utilities are far more permanent than our rapidly changing social and economic conditions. Foresight is needed, and we have developed techniques, previously unknown, to measure trends of social change. Certainly a city plan can not be a definite rigid scheme such as the architect designs for an individual building. It must be based on constant observation of ever changing trends and on anticipation of their future strength and direction.

These trends seem to point toward a star-shaped pattern (Pl. VI, Fig. 12), which may be regarded as a rationalization of the pattern of settlement which is evolving in Metropolitan Communities throughout the modern world. The difference between such a community and the city, as we have known it through history, is more than quantitative. The Metropolitan Community combines the traditional function of the city as the political, economic, and cultural leader with the age-old function of the countyside as the place where the world's work is done. Spatially it combines built-up areas and green open spaces. Formally, it can be perceived neither from the outside as a body circumscribed by its silhouette, nor from the inside as a sequence of volumes of streets and plazas. As its function and its size transcend the city, so does its form transcend city form in a new concept of the Urban Landscape.

Philadelphia, Pennsylvania

THE PLANNED COMMUNITY: A NORTH AMERICAN HERITAGE

Frederic R. Stevenson

Carl Feiss

(Editor's note: The study of the planned community in North America, an introductory chapter of which appears below, was carried on under great difficulties during the war years. Mr. Feiss suggests some of these in a foreward and pays special tribute to the scholarly devotion displayed by Captain Stevenson in the face of them. The genesis, plan, and scope of the complete work are best expressed in an excerpt from Mr. Feiss's foreward.)

". . . . The authors in their original intent wished to place before the American public not an iconography of early community planning in North America, but rather a comprehensive survey which could clearly express through pictures, maps and text the fact that hardly a portion of the northern half of the western hemisphere received the impulses of colonial settlement and pioneer expansion without at the same time developing a form of artistic and intellectual expression, of economic and cultural development which we recognize by the term 'community planning'.

"Mr. F. R. Stevenson, lecturer in architecture and town planning at the University of Sheffield, Associate of the Royal Institute of British Architects, and holder of many British architectural honors, came to the United States in 1938 as Edinburgh College of Art Andrew Grant Traveling Scholar. He spent the winter and spring of 1938-39 studying and carrying on research with me in the Planning and Housing Division of the School of Architecture of Columbia University. Together we outlined the plan for a complete investigation of the background and traditions of community planning in the United States and Canada. Mr. Stevenson's traveling scholarship provided funds which enabled him to complete during the summer of 1939 a 20,000 mile tour of the eastern part of the United States and Canada. The major part of this book is the record of his trip. That this record is incomplete is the fault of the year 1939 and what happened after.

"Mr. Stevenson returned to England upon the threat of war, and joined the British Army. In the interval before entering active military service early in 1940 he sent to me at Columbia University such drawings and text as he had been able to complete, and in the three succeeding years, whether stationed in the British Isles or in Iceland, he continued to devote such leisure time as he had to rewriting the notes he had made in the summer of 1939. In the meantime my own projected tours into the Middle and Far West and South had to be abandoned. It was then decided to put together as much as possible of the material which was on hand. We felt that publication at this time, even in a fragmentary state, would be beneficial not only to the historian and to the scholar interested in the backgrounds of our culture, but that also in planning for the postwar community some of the tradition and heritage which is ours might be given adequate weight.

"The first two chapters are designed as a general survey of the forces in back of the development of our early planned communities, and as a sketch of the variety of cultures which found expression in colonial and pioneer communities throughout North America. The succeeding chapters provide detailed studies of certain regions and of outstanding towns in other regions. There are many gaps. In the history of New England communities, for instance, the section on the New England industrial town is totally inadequate. Fortunately, Mr. John Coolidge's MILL AND MANSION (Columbia University Press, 1942), while the history of only one town, Lowell, Massachusetts, suggests the wealth of material in this facet of planned community development. The story of the Pennsylvania Dutch towns and our Utopias, both eastern and western, remains to be retold in planning terms. The saga of the mission communes in Texas and California remains to be told in planning terms. The fortress towns, the frontier towns, the pioneer military posts of the West - those Roman castra which formed the basis for so many settlements - must be given their due place in this story."

I - NOMADS' REST

So, when you ask about Americans,
I cannot tell their motives or their plans
Or make a neat design of what they are.
I only see the fortune and the bane,
The fortune of the breakers of the earth,
The doom arisen with the western star.

from: WESTERN STAR - Stephen Vincent Benet

This is an untold story of those who founded the settlements on the North American continent. It is not a story of wars, of exploration, of tragedy in the wilderness, of the great treks across the continent, of the great discoveries, of the great migrations. This is the story in part of what happened to the pioneers of North America after they had anchored the ships, after they had cut timber, after they had unhitched the oxen, after they had dug their wells. This is the story of settlement, the story of home building, of business, of lands, of inheritance, of law. This is the story of the first growth of towns, and the first growth of community architecture.

This particular story has been forgotten. It is not to be found in the textbooks of the schools or on the shelves of libraries. It is a story which can be revealed only in the few scattered remnants of our paternal culture still to be found in the United States and Canada in those places where neither the flood of time nor the torrent of the Machine Age has risen to destroy the physical evidence of pioneer and colonial community cultures.

The great migrations to the Americas - the French, the English, the Teutonic, Spanish - each left its imprint on the soil, but each migration, bearing with it the life and the language of the countries from which it came, passed through a mutation of culture - due perhaps to the long sea voyage, to the savage wilderness, to the new air, the new freedom. Each man and woman after setting foot upon the American soil became transformed by some strange process into a new being who was to create within his or her short lifetime the form of action and the direction which the culture of the future Americas was to take. This strange, almost mystical transformation of Old World peoples into new remains one of the great wonders of history. Never before or since has so rapid a change taken place in a people as occurred in the course of some two hundred years after the first settlement on the Atlantic Coast of North America. In that short space of time a new people was created, which had changed even physically to become identifiable with the land they lived in and not the land from which they came, and as they moved westward farther and farther from the coast, their individuality of temperament, of habits of living and habits of thinking became accentuated. In parallel fashion, the communities of the New World, though stemming directly from Old World patterns, were transmuted by the new ideals, the freedom and individuality of their founders into the physical expression of an indigenous North American culture.

Despite wide differences in national background or social level, there were desires common to all the colonists of North America: desires for freedom of opportunity, whether to seek wealth and adventure or to establish a new home divorced from the cramping restrictions of the Old World. Because of these common desires, home seeker and adventurer traveled in the same company, an ideal combination in the wilderness. But the supreme driving power which forced peoples up rivers, over mountain passes, across prairies, and mountains again, greater than the lure of wealth or adventure, was the basic urge for land and home. This succeeded so thoroughly in accomplishing its purpose that today we find it difficult to recreate in our own minds the fierceness of the original impulses which led to the founding of the very communities in which we live. The culture of North America has become so clearly defined in physical terms that even though men and women are still alive who as children participated in the last great migrations, we feel as remote from a full understanding of their experience as if centuries rather than a generation or two had intervened. Only a few of the more romantic and exciting experiences are vividly recalled, embodied for the most part in "horse opera" and the "Western".

The early Americans were restless, ambitious and zealous for their freedom and independence, and their own particular and individual form of religion, bigotry or agnosticism, and as the hordes of men, women, children and cattle swept westward from the Atlantic and northward from the Gulf and Mexico, they left behind them stragglers, those either unwilling or incapable of continuing on, or those who had found a spot satisfactory to them on which to establish a home and a settlement. Men and women grew old, and out of their first ambitions and driving urge, in time came fatigue, a desire to settle, to cease wandering, to till the soil, to raise families, to rest in the security of a stable community - a life natural to all men but the confirmed nomad.

The domestication of the pioneer was not an easy process. He did not always tame with his taming of the wilderness. The adventurer fitted ill into a settled life. But there is apparently in every culture the born burgher, the good citizen who assumes the responsibility for establishing the organization of a community, who assumes responsibility for law and order, and who maintains the rights of property. The burgher type, unless fired with religious or political zeal sufficient to drive him into the wilderness, as with the Mormons, seldom leads the adventure. He may follow it up closely, and the establishment of a sound and well conceived community depends largely on the intellectual caliber, the vision and the powers of leadership of the burgher.

The founding of each of our communities, from the days of the first settlers on, established at once and almost invariably stamped indelibly the future course which each community was to take upon the freshly turned earth. There is something almost as perpetual as the earth itself in the first layout of streets, and in the subdivision of land. Whether or not the community remains predominantly an agricultural town or changes into an industrial city, the original pattern of streets remains the core, having set a pattern which is often blindly repeated ad infinitum, with few variations.

It is this basic pattern which concerns us in this work. However, we concern ourselves here with the planned pattern rather than the unplanned, with the well designed and well dreamed town layout rather than the purely haphazard and fortuitous, or the so-called "plans" which were a product of land speculation in its most rapacious form and a travesty of the term "planning".

The terrible and tragic history of land speculation in North America is well documented[1], although perhaps not too widely known - speculation which, aside from bringing financial ruin to thousands, established in our communities from coast to coast a pattern of chaos and ugliness. The history of American planned communities, however, is hardly begun, and neither the scholar nor the public has yet established the parallels of growth of the planned and unplanned, the simultaneous and even competitive nature of these two elements. The great period of frenzied speculation in land and buildings which swept North America during the nineteenth century almost but not quite completely obliterated all traces of the great but less powerful heritage of planned communities. The scale, the violence and the excitement of the speculative period in our historic growth, a period which is still in full vigor and of great strength, has nearly wiped out one of the finest of our many fine traditions. It has become so strong and so self-willed, in fact, that to suggest that good community planning is an American tradition and a proper and natural function of society places the proponent of planning in the minds of the average American today as either a dreamer or a radical. To prove that good planning was part and parcel of the best elements within the conservative settlement and growth of North America is a purpose of this study. Whether or not this tradition can be restored remains to be seen.

What are the differences between the speculative and the nonspeculative early American community? In a sense there is no distinction, since the settlement of North America was a speculative venture to begin with, and the layout of most communities, when premeditated, was performed with the basic purpose of the sale of land. But there is a wide distinction between a pure land speculation plan such as that of Richmond, Va., prepared by Major Mayo for William Byrd II,* and the plans of Savannah, Georgia, or Ipswich, Massachusetts, to be discussed later. A mere laying out of rectangular lots irrespective of topography, purpose and later use, without provision of space for public buildings or public grounds, is not a town plan - it is merely a land subdivision scheme. The plan of Williamsburg, the plan of New Orleans, the plan of Edenton, North Carolina, are plans which handle the layout of lots with the design of the community in an integral, carefully conceived and highly imaginative project. In these plans the business of selling lots does not take precedence over the responsibility for the design of an attractive, well ordered and well rounded community in which business of all types besides that of real estate is intended to flourish, and in which a congenial setting is provided for the business of living itself. In the speculative land subdivision plan one feels that most damaging of all community characteristics, the overwhelming desire to promote, to sell, and to get out. There is no permanent backbone, no real structure, no sense of stability in such a plan, and the resultant community becomes indescribably chaotic and dull, and may take centuries to develop individuality and character of its own.

*Plate VII, Fig. 1

Early American communities have suffered so severely from later day speculative plans that in many of them traces of earlier plans have been practically obliterated. Philadelphia is a prime example. The plan of William Penn is still there, and those who are fortunate enough to live or work near the four small squares provided in that plan enjoy the privileges intended by Penn to be the right of the citizens of Philadelphia. Penn's two major streets, Broad and Market, serve as the major elements of the skeleton, but now extend far beyond the original planned limits. The later day developers of Philadelphia simply carried on the tradition of the block and street pattern and dimensions ad infinitum, to create a vast city matched in dullness of aspect only by other American cities suffering from the same malady: Chicago, Detroit, Atlanta, Los Angeles, and many others. If the Philadelphian of the nineteenth century had recognized the finest element of the Penn plan, the ordered distribution of open space, and had built on this rather than on a stiff and uncompromising gridiron layout, the city of Philadelphia would much more closely resemble in attractiveness the city of Savannah, whose original plan, based on open space design, was carried on from generation to generation well through the nineteenth century.

Since the distinction between the well planned colonial city and the poorly planned one cannot be made by attempting to differentiate between a city which was built purely for speculative purposes and one which was not, we will draw no hard and fast line. Instead we must search for the main purpose for which the community was founded, and it is interesting to note that almost invariably where the public purpose was uppermost in the mind of the founder, such purpose is easily distinguished in the plan. Where mere personal gain is involved, such purpose is also easily distinguished. Since with few exceptions the modern American city suffers from an overdose of purely profit-seeking private initiative in the stomach of the body politic, it is well for us to retrace our steps long enough to see by what means many of our predecessors recognized and designed schemes for avoiding the chronic urban ills to which we still succumb.

While the archeological aspects of the study of early American city planning are fascinating in themselves, and their analysis becomes an important academic function, it would be unwise to assume that the style of community living of an earlier era can be, or should be, transmitted to present-day living. The Americas have shown little judgment in their acceptance or rejection of traditional forms of architecture and civic design. Our cities have become chambers of horrors of all styles of architecture conceived since history began, and have created certain mixtures of these styles more repulsive than anything to be found in chambers of horrors. It would be unfortunate indeed if this or any succeeding study tracing the history and archeology of early American communities should be misinterpreted as illustrating the kind of community pattern needed today. It should be clearly understood that no community pattern of colonial or pioneer America can be considered appropriate to modern living, and that the external forms of these communities should not be repeated or recreated except for archeological or museum purposes. The value which lies in the study of these communities is derived from the understanding of the impulses which were responsible for the creation of certain elements which through recorded history have become recognized as

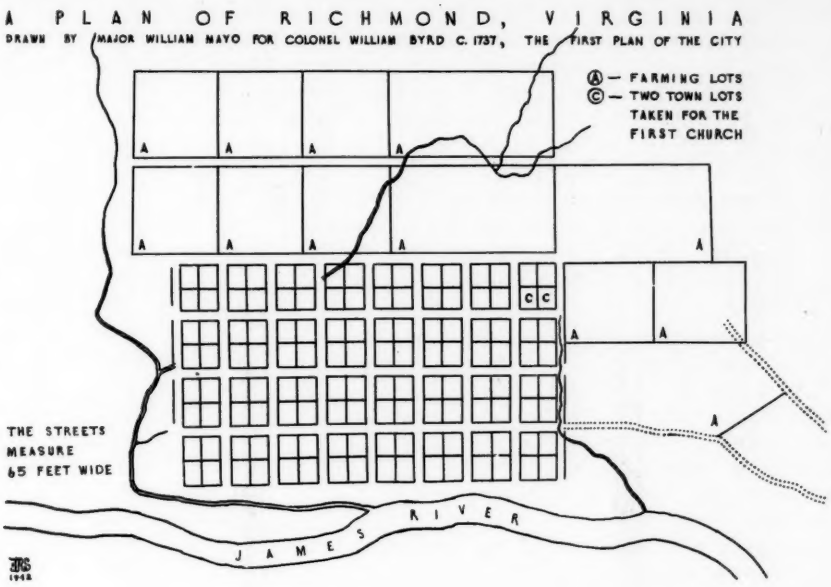

A PLAN OF RICHMOND, VIRGINIA
DRAWN BY MAJOR WILLIAM MAYO FOR COLONEL WILLIAM BYRD C. 1737, THE FIRST PLAN OF THE CITY
Ⓐ — FARMING LOTS
Ⓒ — TWO TOWN LOTS TAKEN FOR THE FIRST CHURCH
THE STREETS MEASURE 65 FEET WIDE
JAMES RIVER

Fig. 1. 1737 Plan of Richmond, Virginia

Fig. 2. Independence, Missouri. Mid-nineteenth century engraving. Coll.: Carl Feiss

PLATE VIII

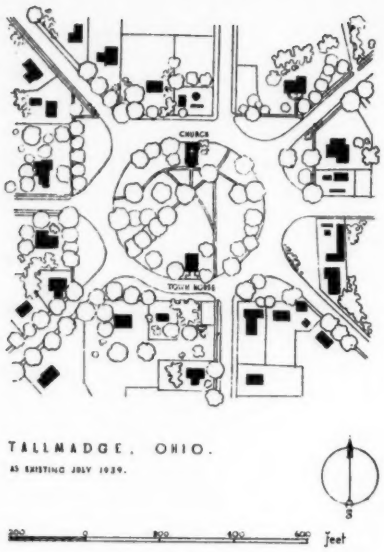


Fig. 3. Plan of Tallmadge, Ohio. 1939

Fig. 4. Plan of The Plaza - Old San Diego

appropriate to the structure of a civilized commune, whether in China, in India, in Arabia, Europe or the Americas.

The identification of these elements is not difficult, although we are often prone to avoid mention of one of them, owing to an unfortunate phobia for things aesthetic. Aesthetiphobia - the fear of admitting to the liking of beautiful things - has probably caused more damage to our communities than any other single fear we have. Why modern man should be ashamed of this sense, of this normal human craving, is difficult to explain. The results of a long period of aesthetiphobia have been to destroy hundreds of New England greens, to wreck scores of Pennsylvania Dutch towns, to demolish the facades of many of the finest public places in cities from Boston to New Orleans, and from Charleston to San Antonio.

More important than the aesthetic considerations of the early plan is the quality of good living which was afforded within the well conceived and executed community. The recreation of the stabilities and amenities of such living is not an archeological trick but rather is a fundamental human need. The modern city has become a place to run away from, to escape to the suburbs. Escape to open space, to land, fresh air, to a sky and growing things becomes a paramount necessity. The quality of the well planned modern community almost automatically recreates in its basic elements the form of our simple and early communities in which the elements of space, light and air, privacy and warmth were so natural and normal a part of the plan that their absence becomes noteworthy.

It is not correct to consider that a restudy of these basic elements is a return to primitivism. Our early culture was not primitive; it was simple. The log cabin and the mud hut were mere transition structures in use until the family had time to develop a better home. Savagery of the wilderness and its inhabitants, and the isolation of the home and the community from other settlements usually established the length of life of the earliest simple structure. In certain sections of the Americas there has been a reversion to primitivism because of isolation and poverty, but it should always be remembered that the people who settled North America, the members of the European invasion from 1492 on, were in no sense primitive peoples, although their station in life, their wealth and education may have been in the lowest level of the societies from which the migrants came. The only primitive peoples of these migrations were the African negroes, who had no individual responsibility in the design or fabrication of settlements, although their subsequent influence on local culture became great. Therefore, in our analysis of early settlements and our interpretation of their value to our present society, we should remember that the settlers of North America were participants in the later European Renaissance. They had been brought up in its revolutionary and at the same time Mediterranean Classical traditions, and were in every way connected with the violence, the beauty and the intellectual ferment of that period. Some groups of settlers in North America burned with the zealousness of the Reformation. Others were fired with the devotion and the crusading spirit of the Mother Catholic Church. Still others were imbued with a new energy and Utopian spirit born from a literal interpreta-

tion of dogma combined with a desire to cast off all traditional shackles. But irrespective of their background or desires, the settlers of North America carried Europe with them in each boatload, and our first settlements and their successors in the movement west unmistakably repeated the imprint of European culture.

Throughout history, colonial settlement has been characterized by this same transmittal of cultural heritage and by the conflicts of interests between the promoters of the speculative ventures and the actual colonists themselves. The Greek and Roman colonies in the Mediterranean are excellent examples of this. Almost invariably where land grants are involved in the colonization, it is natural for the holder of the title to wish to profit to the greatest possible extent from such holding. It is also natural for colonists to attempt to escape from such restrictions as may be imposed upon them by the title holders. In the Americas it was relatively easy for the more adventurous to escape into the wilderness beyond the known limits, or even the unknown limits, of many land grants to settle new communities totally free of transatlantic encumbrances. Likewise, having once established the pattern of escape by coming from the Old World to the new, those who chafed at the restrictions imposed by life in the coastal settlements found it easy to escape again to the complete freedom of the wilderness. Only too often with freedom came license. In these free settlements there was no colonial governor, no enterprising land owner, no church to act as a curb or to establish standards for an orderly community.

On the other hand, there were many examples of settlement in an orderly fashion. For instance, certain New England communities, particularly in the late eighteenth and early nineteenth centuries, finding their resources strained by overexpansion of population, sent out surveyors, or what might be called "subcolonizers", armed with guns, axes and the maps for a preplanned community. In just such a way Marietta, Ohio was founded by Ipswich, Massachusetts. These subcolonies and the other new communities in the wilderness rapidly lost contact with the towns from which they originated, yet all bore in some degree the stamp at second hand of the culture of the original American settlements, and at third hand of the remoter European heritage. Certain forms and patterns of community design moved westward year by year following the trails and wagon routes, to become characteristic of the extended region settled by pioneers of a common cultural heritage. Thus the New England green moved west with the migrants across New York State, Ohio, into the Mississippi Valley, to the edge of the prairie and the western plains (See Pl. VII, Fig. 2).

One point to be recognized in this movement west is that with the founding of each new settlement there was a repetition of the character of the establishment of the older or parent community. The artisans of the older colonies moved west with the burghers and the adventurers, and brought with them the tastes and skills developed in the older colonial cities, so that the nature of a town established in Ohio or in southern California in the early 1800's would in most elements resemble the nature of a parent town which may have been established in New England or Old Mexico one hundred years before. Tallmadge, Ohio (Pl.VIII,Fig.3) is a perfect example of such

a community in which the church and houses and green illustrate the natural and not imitative transmutation of architectural and community design from the Atlantic Coast across the Appalachians into the Mid-West. Similarly early San Diego with its plaza (See Pl. VIII, Fig. 4) and Governor's Mansion was not imitative but a direct derivation from the colonial settlements of Mexico.

It is in the identification of the sequences of settlement that much further research and investigation is needed. From 1600 to approximately 1860 the expansion of the colonies was almost continuous, and pioneer settlement was a constantly repetitive process in constantly new locations. During this period an infinite variety of planned and unplanned towns were established and grew, and while the new communities were being settled the older ones were becoming more firmly established and were developing their individual patterns of growth. This investigation places no emphasis on date, but rather it attempts to establish some of the parallels in culture and design to be found in important planned settlement throughout North America during a period covering roughly two hundred and fifty years of pioneering.

Similarly, it places no emphasis on periods of architectural style, even though architecture as a factor in civic art and as a great cultural expression is discussed in detail. The reason for this is that since town settlement of North America was a constant progression, a series of more or less uniform sweeps of Anglo-Saxon, Gallic and Teutonic cultures from the Atlantic Coast westward, and Gallic and Spanish from the Gulf and from Mexico northward, it is impossible to determine the exact beginning or ending of any architectural period. The American Colonial with its Wren and Adam characteristics followed across the mountains into the Middle West with the pioneers who broke the wilderness. The Jeffersonian Roman style and the Gothic Revival followed on the heels of the English Renaissance style and caught up with it in the Middle West, to be in turn quickly swallowed up in the great wave of Victorian Romanticism. By the mid-nineteenth century, even though pioneering was still in process, all settlement and development was engulfed in a maelstrom of Eclecticism owing to the pervading influence of the several carpenters' manuals which were widely disseminated, and which revealed the wonders of Classic, Renaissance and Gothic architecture.

Considering the wide disparity of provenance, not only of the American peoples, but of the influences upon them in their settlement, it is one of the wonders of the history of North America that the Melting Pot should have boiled them down to a common language and a common way of life as quickly as it did. While the catastrophe of the War between the States completely destroyed one phase of the American culture, the onward movement of settlement and the growth of cities was only temporarily halted. This movement was to die down only when the railroads had penetrated to the farthest confines of the United States, and when the last fertile lands had been settled. There are wildernesses still to be explored and exploited in Canada, Alaska and in Northern Mexico, but it is reasonably safe to assume that the frontier no longer exists within the United States, and while migrations and transmigrations of population are still in progress in the further seething of the Melting Pot, such migrations cannot be considered as either prioneer or

colonial.[2] The building of new cities in America and the repairing of the old must be based on designs from within the country itself, and from within the traditions and heritage of our historic growth.

Edinburgh, Scotland

University of Denver

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1. See: Charles Abrams: Revolution in Land; George Sokolsky: The Great American Land Bubble.

2. The colonization of Alaska and of Northern Canada in the future will undoubtedly follow the natural pioneer and colonial form, and there is considerable evidence already to bear this out. Many Alaskan cities have grown as speculative communities based on the Gold Rush and other mining ventures. The earlier Russian coastal settlements were colonial fishing communities. The Matanuska Valley experiment of a planned settlement sponsored by the Federal Government is in the traditional pattern of such sponsorship from the days of Queen Elizabeth. The present expension throughout this northwestern area again paves the way for pioneering and settlement just as it did in the mid-nineteenth century in the Western Territories.

OUTLINE FOR A HISTORY OF CITY PLANNING

From prehistory to the fall of the Roman Empire

IV

ETRUSCAN AND ROMAN

Giorgio Cavaglieri, A. I. A.

The period of Roman civilization covers in history books about eleven centuries, from the year of the foundation of Rome (755 B.C. according to Roman historians), to the year in which the center of the government and culture was officially transferred to Constantinople (Byzantium) in 496 A.D. This is a short time compared with the three thousand years of Egyptian culture. And more so, if we think that from about the 2nd century A.D. the curve of Roman intellectual as well as political power may be thought of as falling off sharply.

However, as far as city planning is concerned, the clarity of vision the Roman planners showed during the five or six centuries of their more constructive history set principles and standards whose value was not surpassed in succeeding centuries. They noted the important points in city designing and building, and they established a few standard features which were used despite local conditions which differed geographically as much as architecturally.

As in the case of the Greeks, the Romans left the best examples of their city planning in places other than their home town.

Their imperialistic and military activity took them all over the known world. The Roman legions marched with their builders, designers, and architects all over Europe and North Africa; they were ready to absorb the other nations' ideas when found useful and satisfactory, but also to force on them their standard principles and inventions when such action seemed necessary.

The remnants of Roman towns are usually recognizable today by a gridiron plan, developed from two main axes, with regular blocks repeated in all four quarters.

This, however, was not a Roman invention; neither was it the result of purely practical needs. The lake dwellers had recognized the usefulness of the simple gridiron plan centuries before Rome was squared out on the seven hills. When the Romans started the conquest of Italy, cities built on a gridiron plan had already developed, flourished, and in some cases disappeared in that same territory.

The lake dwellers had also recognized the usefulness of leaving at the side of the main crossroad a square or space for religious ceremonies.

We have seen this system in the plan of the Terramarae.

But the Terramarae of the Metal Age were no longer in existence when the Romans started the conquest of Italy. The organized and powerful Etruscan nation was there to oppose the Romans in their military ambitions and to hand over to them, willingly or not, the burning light they had inherited from past civilization.

The E t r u s c a n s had kept and developed the gridiron plan of the lake dwellers who had preceded them in the same territory. This layout furnished them with means of subdividing the plots and distributing the soil among the citizens, although it was primarily the result of religious beliefs.

When the newcomers, the Romans, appeared, they found the gridiron scheme deeply rooted in the customs of the inhabitants of Italy; they adopted it, maintained it, developed it.

Contrary to the original Terramara plan, the Etruscans, due probably to their peculiar religious beliefs connected with the cult of the dead, had dropped the principle of keeping the place of worship close to the main traffic crossroad.

The map of what today remains of the Etruscan city of M a r z a b o t t o (Plate IX) shows how the Acropolis, the altars and the temples were separated from what was the heart of the city. The access of the people to the place of worship was therefore more confused than in the old Terramara plan. The hierarchy of the streets according to their importance, with greater widths where more people were assumed to use them, is therefore less clear.

We may still see, however, that the "Cardo", orientated north-south, and the "Decumanus", east-west, "secundum soli decursum" (according to the course of the sun), divided the city into four sections. These sections formed the residential districts and they were protected by a high wall all around them.

Outside of this was the "Pomerium", a zone where "neque habitari neque arari fas erat" (it was sacrilegious to reside or plow), the Acropolis with the temples and places of worship, and the Necropolis or cemetery.

The main cardo and all the decumani seemed to have been about 45-50 feet wide with sidewalks about 15 feet wide. The blocks were about 540 feet deep with a variable width from 115 to 200 feet. The residences were built around the plot borders with a common well in the common yard inside.

Today, more than twenty-five centuries later, this system of many residences sharing an inside courtyard is still used in most European construction.

The characteristics of Marzabotto are found in most of the other Etruscan cities, such as P o p u l o n i a , V e t u l o n i a , C h i u s i , and T a r q u i n i a , all in Central Italy. V u l c i is

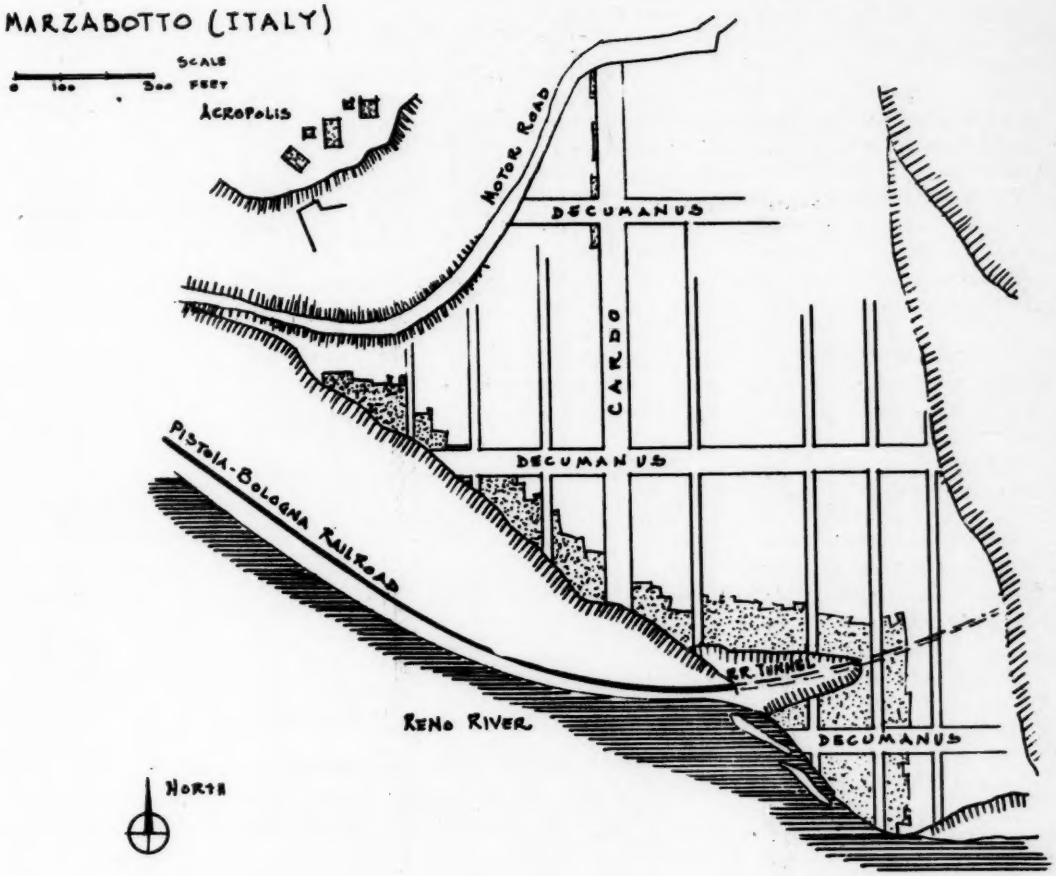
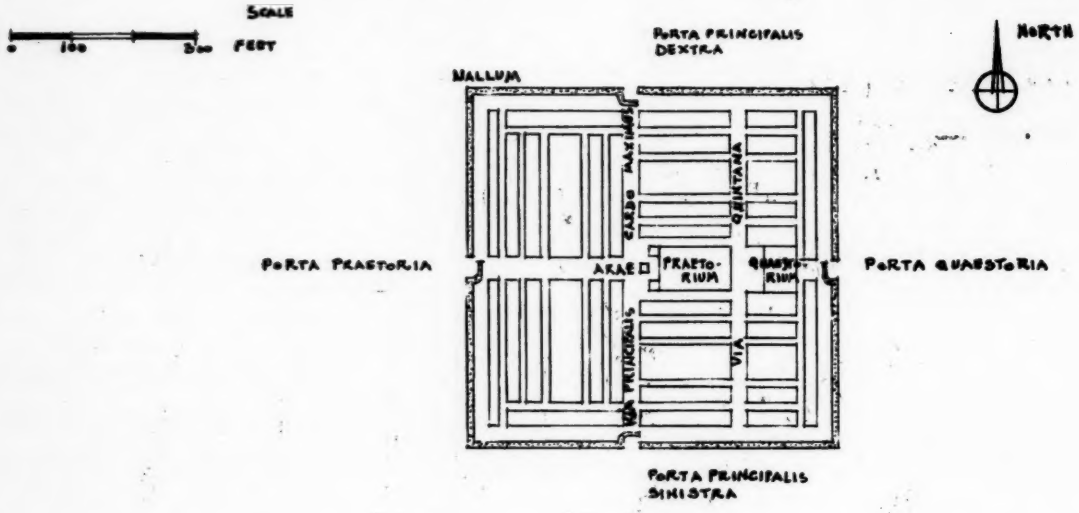
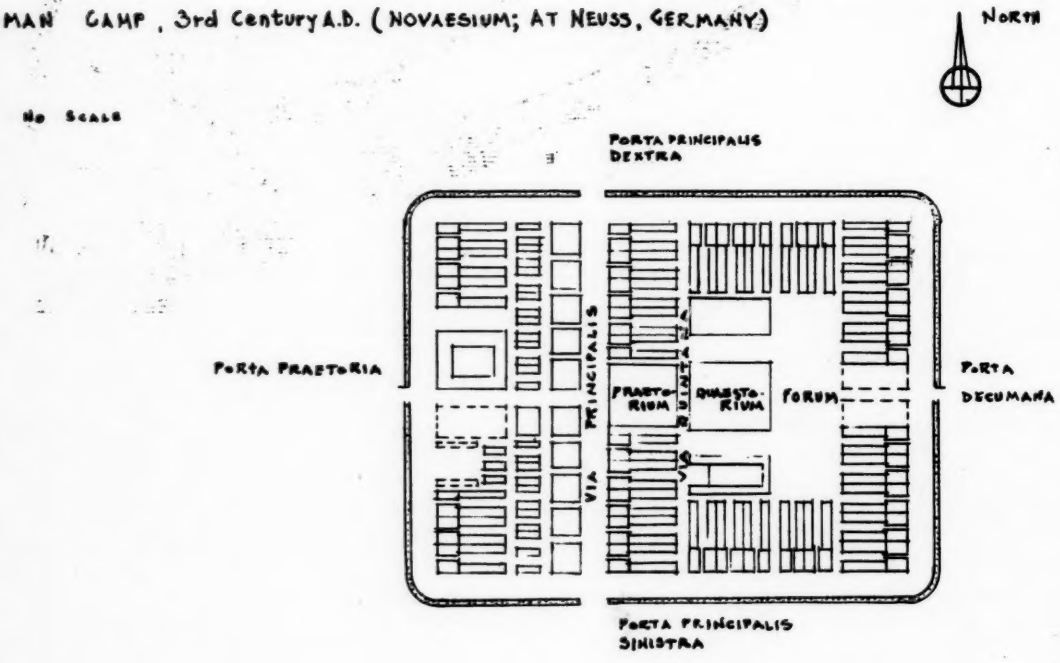

MARZABOTTO (ITALY)
SCALE
0 100 300 FEET
ACROPOLIS
MOTOR ROAD
DECUMANUS
CARDO
DECUMANUS
PISTOIA-BOLOGNA RAILROAD
RR TUNNEL
RENO RIVER
DECUMANUS
NORTH

PLATE X

ROMAN CAMP (CAESAR'S AT AISNE AND SAMBRE, FRANCE)



ROMAN CAMP, 3rd Century A.D. (NOVAESIUM; AT NEUSS, GERMANY)



the only one which has some remainder of the circular form; it could be a proof of relationship with the Asiatic civilizations who had built Zendjirli and Troy.

Should the legend that the Trojan hero Eneas escaped from his burned city to Italy be given some credence, then Vulci could represent an older scheme, built by the migrating people before they came in contact with the Italic civilization of the lake dwellers.

The first centuries of Roman architectural history, and therefore also of the manifestations of city planning, are based entirely on Etruscan characteristics. The Romans started to develop artistic character of their own when, about the end of the 3rd century, their military predominance was asserting itself on all the Italian peninsula.

Excepting Rome itself, the Roman-built cities all over Europe, North Africa, and Western Asia are direct derivations of the military camp (Castrum).

Examining the scheme of the Roman castrum, we find, therefore, the basic characteristics of the Roman city. The principles of design were established before the last century of the Roman Republic and kept unmodified ever since.

The principles which are noticeable in the scheme of the castrum as described by Julius Caesar are found applied to all the Roman-built military camps which were transformed into cities (Plate X).

As in the Etruscan city, the space is divided by two main axes, the cardo and the decumanus. These are usually orientated north-south and east-west; but this religious principle of orientation is more flexible for the Romans than it was for their predecessors. Often geography or traffic needs will make them turn the whole scheme around the central point to the right, as in Turin (Augusta Taurinorum), or to the left, as in Aosta (Augusta).

The Romans, however, brought back and used one feature which the Etruscans had left out of the original Terramara plan: the "Forum", the meeting place, set close to the main crossroad.

Thus the main cardo and decumanus again convey the people to the community center. Again these two streets acquire more importance than the other streets parallel to them; larger dimensions are used for them and the hierarchy of streets is firmly reestablished. The street which conveys few people to their individual abodes does not need to be as large as the ones where residents of many plots converge.

The castrum, as well as the fixed establishment into which the castrum was often transformed, needs military protection. A wall is built all around it with easily protected gates. These are placed, of course, in the direction of the cardo and of the decumanus; thus the traffic into the city and from the city to the outside is conveyed to these main arteries; usually, also, the cardo or the decumanus are on the axis of the main country road in the location.

In this way two different kinds of traffic mix in the two main streets: the out-of-town traffic, and the traffic of the citizens of the town coming from and going to the civic center.

In order to allow more freedom of circulation around the public spaces where both crowds will meet, the Romans decided that the forum had to be close to, but not at, the main crossroad. They set back the public buildings and the square at one side of the main street in order to have an easy access to the civic center, although avoiding crossing it.

If the present-day planners would keep this easy principle in mind when designing a railroad station or a theater, many accidents and traffic jams of our automobile era would be easily avoided. The Romans thought of it, and they usually walked to office, rarely rode!

With the growth of importance of the bureaucratic, imperial Roman organization, the castrum and the city had to give more space to the commander's offices and those of his helpers.

The "Quaestorium" grew in importance back of the "Praetorium". The street in front of it (Via Quintana) assumed the character of a bureaucratic passageway.

This brings up the point of the recognition by the Romans of the need of zoning their cities. The residences are kept on the side; the main offices are grouped together; and the commercial establishments are distributed where the traffic encourages them. The Romans went so far in this respect that, in many of their cities, shops handling the same business were grouped in the same street.[1]

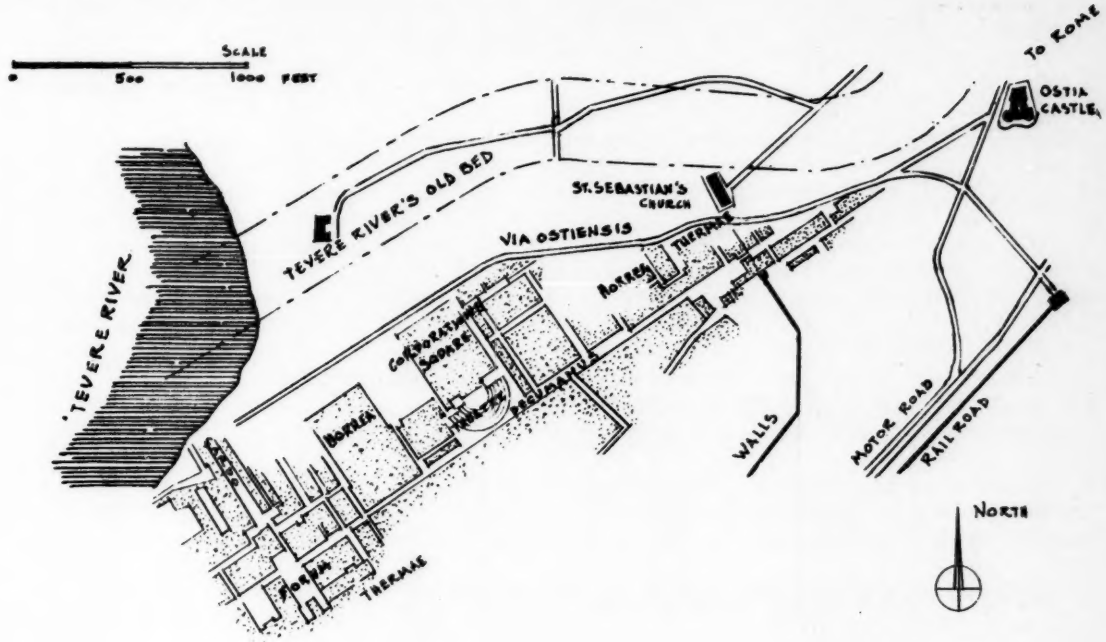
Roman heavy industry never assumed, of course, the importance it holds in today's cities; but the Romans recognized also the need of separating industrial establishments entirely from the rest of the city.

The best example of this zoning consciousness, so different from the disorder often noticeable in this field in the cities of today, is seen in the plan of Ostia (Plate XI).

Ostia was the harbour of the Roman Empire. Its importance as a center for the distribution of goods was paramount, since the Mediterranean had become a Roman lake. Ships gathered in a harbour protected by engineering feats which may bear successfully comparison with today's.

The emperor Trajan built Ostia's great harbour. The distance from the main street (decumanus) of Ostia city to the axis of the harbour is about two miles, and the space selected for the warehouses is separated from the city by the necropolis. Thus the warehouses which crowded the harbour approaches were not built in the midst of the residential district, neither did they deprive the citizens of their chance of enjoying the waterfront view. (Think of today's Baltimore.)

OSTIA (ITALY)



ROMAN OSTIA'S SCHEME

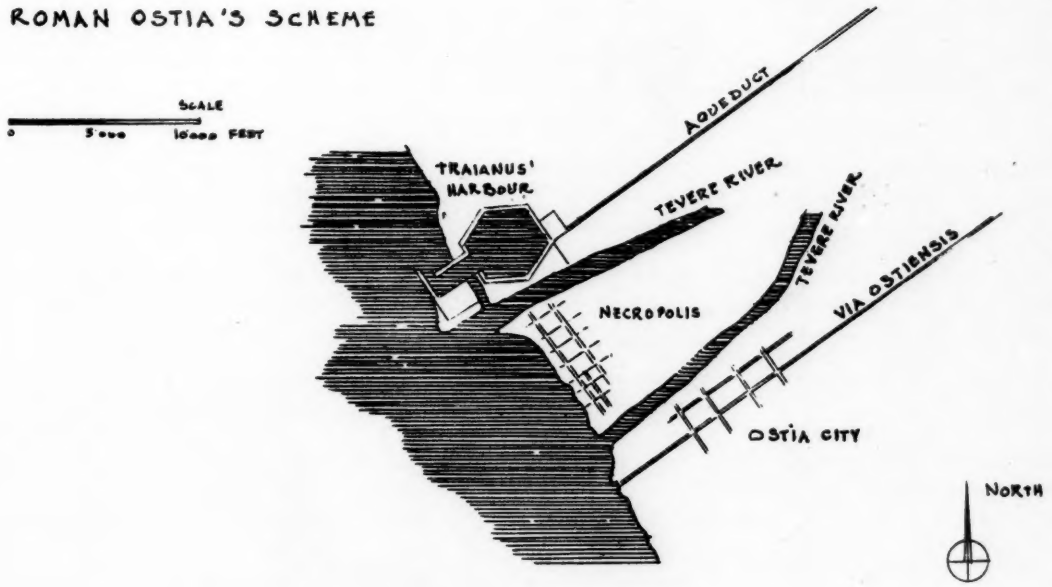
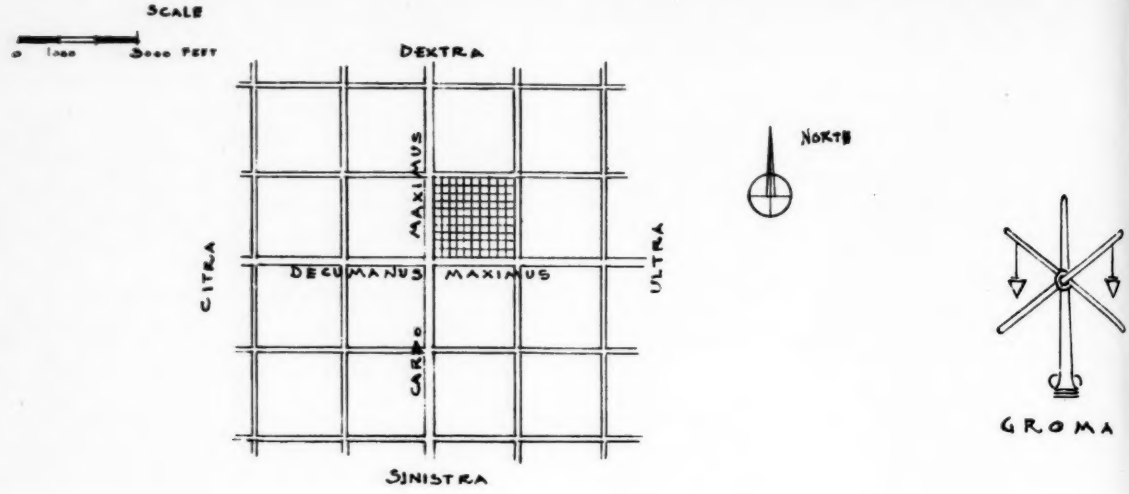
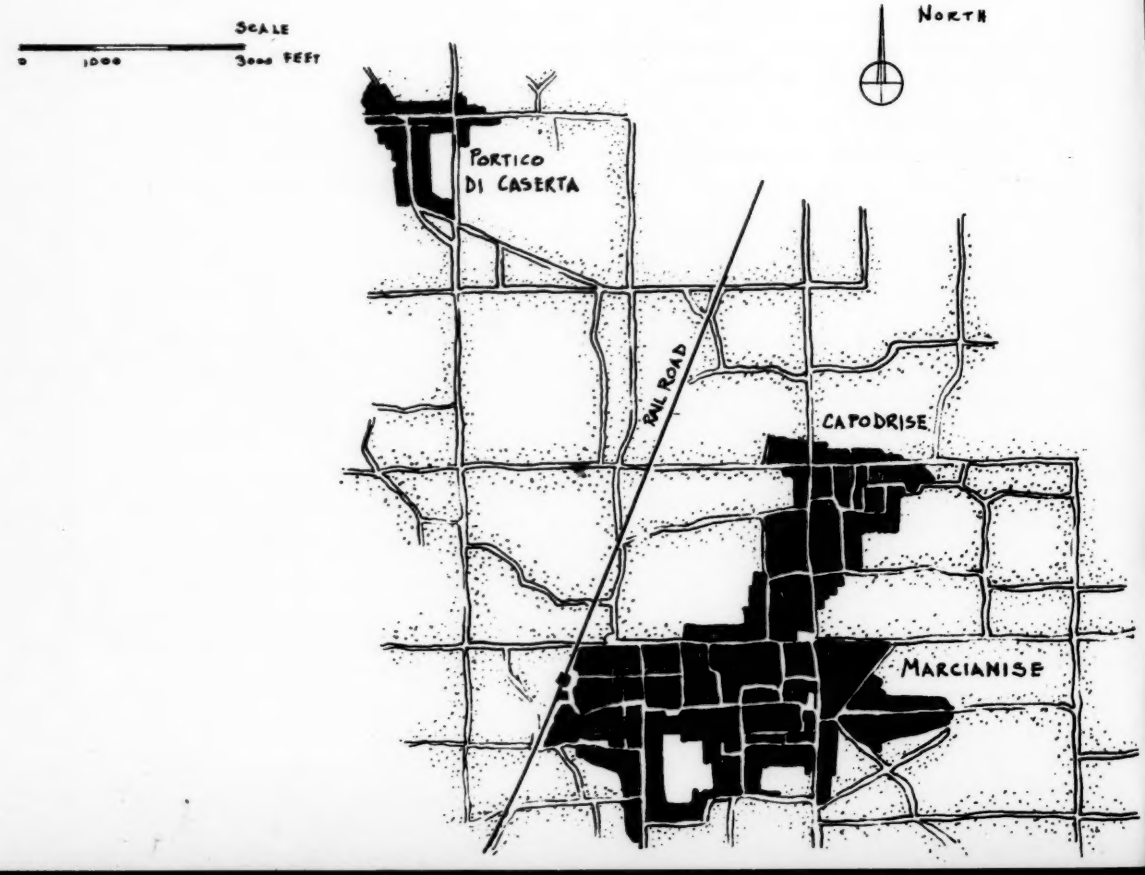


PLATE XII

SCHEME OF ROMAN SUBDIVISION ("CENTURIATIO")



SAMPLE OF ROMAN SUBDIVISION - CASERTA PROVINCE (ITALY)



This did not prevent the commercial companies, of course, from having offices close to the meeting places whence people could be attracted by their commercial enterprises and displays: the "Corporation's Square" was close to the theater and the main street.

The Roman expansionist organization was concerned with military occupation as a forerunner of agricultural exploitation. The veterans of the Roman armies were conquerors of land, and most of their campaigning was a way of looking forward to future settling. If many of them in the time of the Empire became professional soldiers and politicians, this did not change the government's official policy. The only difference was that after the conquest was achieved the conquered people swelled the ranks of the soldier settlers.

Back of this settling idea is the greatest achievement of the Romans as city planners. The regional plans which were brought into the limelight by city planners at the end of the 19th century were a reality in Roman times.

Tremendous sections of the Roman Empire were crosshatched by a scheme of main roads and secondary roads down to a regular gridiron of country roads which subdivided the territory into the plots to be allocated to the settlers.

This regional planning was worked out directly in the field, but the accuracy of the result is amazing.

First, the main road was built. It came with the conquest itself, as a matter of fact: the Via Appia, and the Via Aemilia. Hundreds of roads radiated from Rome, the heart of the organization. They were built by the legionnaires as they marched forward. A look today at the old Via Appia and its perfect, straight lines, many miles long, connected by large, radial curves, is extremely impressive, even for people accustomed to highways and parkways.

When the location for the castrum had been chosen, the principles of religious orientation were very often set aside and the decumanus or the cardo was set on axis with the main road to Rome.

Then the distribution of the ground was devised. This operation was called "Centuriatio" (Plate XII) because the big subdivision was made in such a way that roads were drawn forming large squares susceptible of being subdivided into 100 parts (centum = hundred). The side of these squares was 2328 feet long, and along the gridiron thus formed the slopes of the ground were worked out to drain off surface water.

The men in charge of this subdivision of ground were called "Gromatici" from "Groma", the instrument they used for the purpose. Its simplicity surprises us if compared with the accuracy of the survey.

The roads drawn by the gromatici may still be seen in many parts of Europe and particularly in Italy.

Take for instance a map of ground in Caserta province (Plate XII) or another one in Ravenna province (Plate XIII) about 400 miles apart. Twenty centuries of disregard and decay have not yet cancelled the usefulness of the centuriatio scheme; and the few roads which have been moved or wrongly added may be easily recognized. Usually their direction disregards drainage and the contours of the ground, and therefore their effectiveness is doomed to failure.

In one case the straight north-south and east-west orientation has been followed. In the other one the existence of the Via Aemilia close by suggested keeping it as one of the main directions. In both examples, however, the expected growth of small villages or towns inside the original scheme shows how the centuriatio provided a good, sound background for future expansion and regular growth of the inhabited nucleuses.

Examples of the design adopted by the Romans for their cities may be considered to be of three types:

a) cities grown up in particular locations, because of political or commercial importance, without general pre-planning such as Rome itself and, to a certain extent, Ostia.

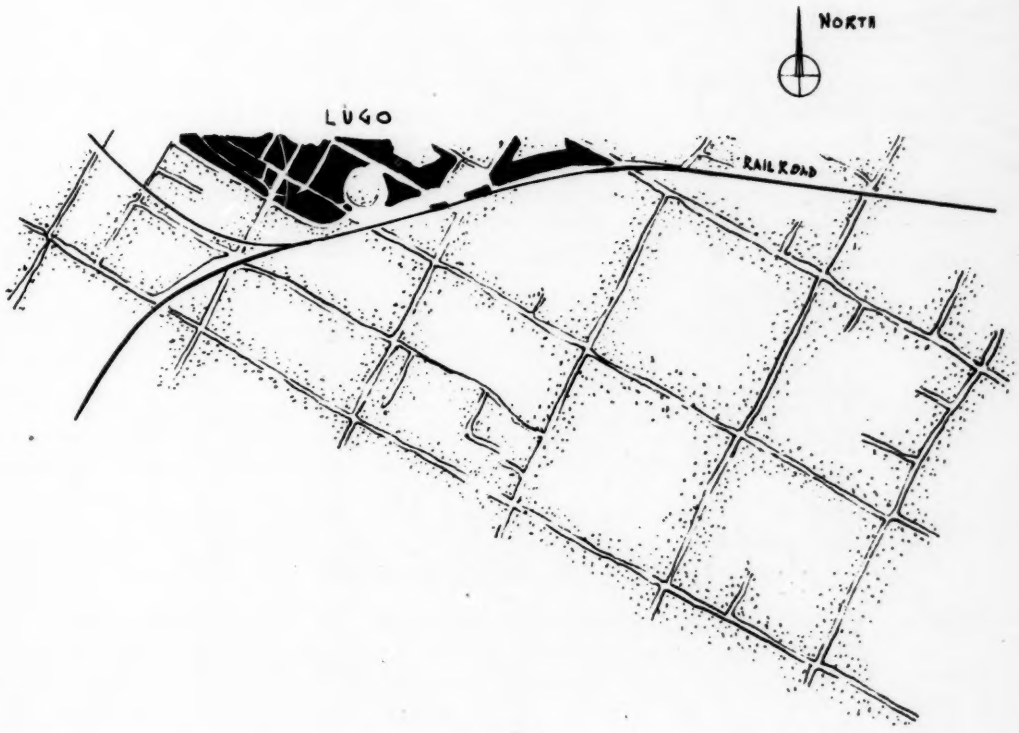
b) cities which the Roman conquerors found already well organized and established by people with a high civilization. Cities of this type may be found in Italy itself - Pompeii or Velleia, for instance - as well as in Egypt and the Middle East.

c) cities grown out of military camps. These are the ones usually thought of as typically Roman cities, since they are the majority of the cities established and developed during Roman times. Most of them still remain important, populated nucleuses. Their characteristics are the same throughout all of Europe, North Africa, and the Middle East.

The first group to be discussed consists of c i t i e s w i t h o u t g e n e r a l p r e - p l a n n i n g. A basic street layout, as a guide, does not exist, or it takes care only of a section of the town, which has been rebuilt or designed as a unit in an older layout. Large sectional arrangements were made in all Roman cities of importance, mostly during the Empire. These arrangements are most interesting from the architectural viewpoint, for they usually show temples, fora, theaters, etc., grouped together, designed and built with richness of materials as well as with breadth of ideas.

Moreover, the grouping of the buildings is regularly planned in relation to every one of them; in most of the cases a general plan has been designed for the entire group, taking care of circulation problems and connections to surrounding streets. Usually cities of this type, although lacking the general, regular street layout, have districts or sections with a definite uniform character of their own. Residences of the different social levels are grouped together; some sections are purely commercial, some entirely dedicated to trade and storage purposes (as in Ostia). Sometimes this

SAMPLE OF ROMAN SUBDIVISION . RAVENNA PROVINCE (ITALY)



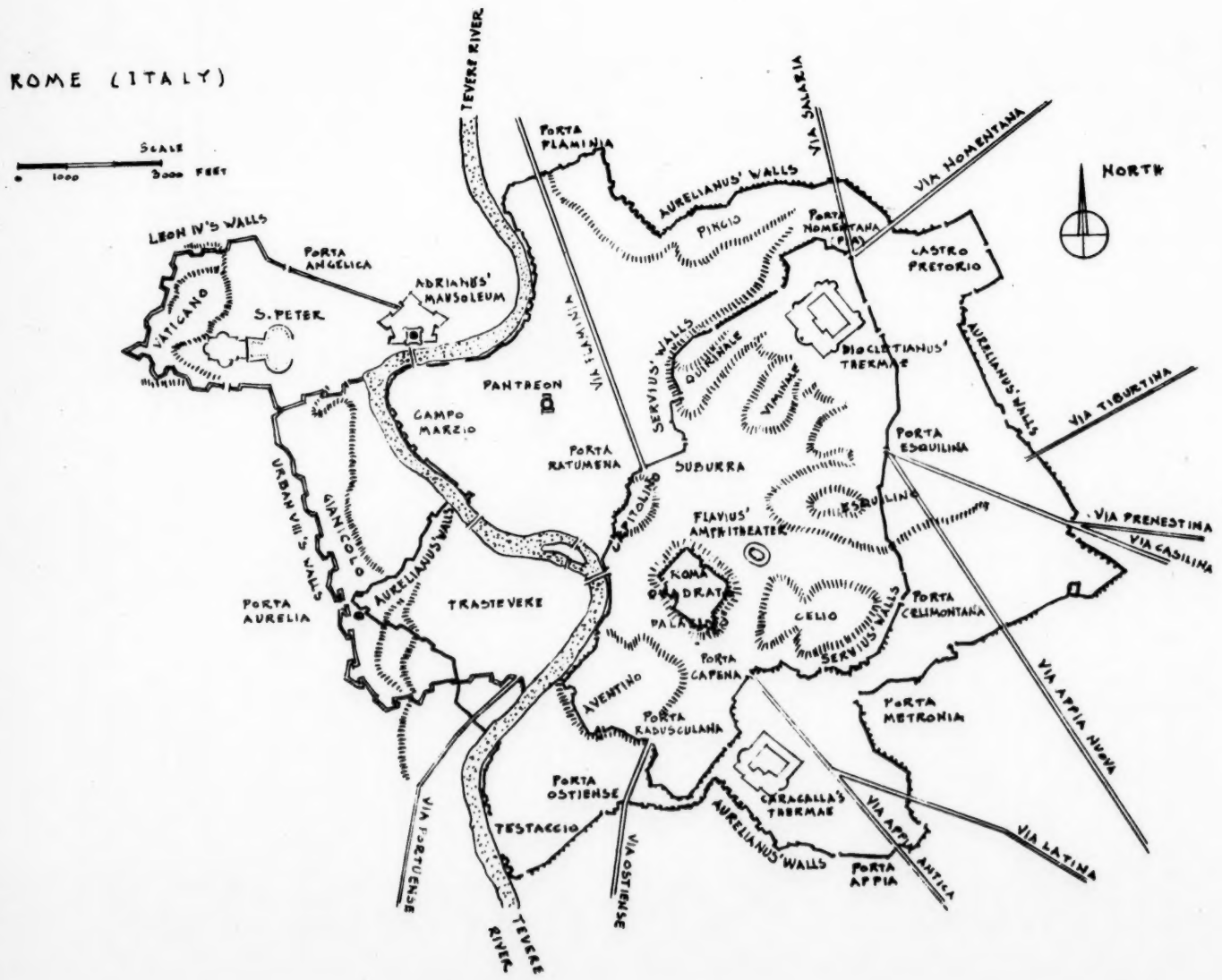

ROME (ITALY)
SCALE
1000
3000 FEET
TEVERE RIVER
PORTA PLAMINIA
VIA SALARIA
VIA NOMENTANA
NORTH
AURELIANUS' WALLS
PINCIO
PORTA NOMENTANA (PIA)
CASTRO PRETORIO
LEON IV'S WALLS
PORTA ANGELICA
ADRIANUS' MAUSOLEUM
VATICANO
S. PETER
VIA FLAMINIA
SERVIUS' WALLS
QUIRINALE
DIOCLETIANUS' THERMAE
AURELIANUS' WALLS
VIA TIBURTINA
PANTHEON
CAMPO MARZIO
VIMINALE
PORTA ESQUILINA
PORTA RATUMENA
SUBURRA
ESQUILINO
VIA PRENESTINA
VIA CASILINA
CAPITOLINO
FLAVIUS' AMPHITHEATER
URBAN VIII'S WALLS
GIANICOLO
AURELIANUS' WALLS
ROMA QUADRATA
PORTA CELIMONTANA
PORTA AURELIA
TRASTEVERE
PALATINO
CELIO
SERVIUS' WALLS
PORTA CAPENA
VIA APPIA NUOVA
AVENTINO
PORTA METRONIA
PORTA RADUSCULANA
PORTA OSTIENSE
CARACALLA'S THERMAE
VIA APPIA ANTICA
VIA LATINA
TESTACCIO
AURELIANUS' WALLS
PORTA APPIA
VIA PORTUENSE
VIA OSTIENSE
TEVERE RIVER

PLATE XIV

separation was caused by code regulations (such was the case in Rome), sometimes by broadminded, schematic, general design (as in Ostia). It proves, however, how clearly the Romans understood the zoning principles, and how they managed to reach their final goal of orderly planning with all the means at their disposal.

The "Roma Quadrata" which Romulus supposedly founded in 746 B.C. was a walled fortress on top of the Palatine hill. At that time the "Sabini" occupied the Capitoline and Quirinal hills, the Etruscans the Celius and Esquiline hills (Plate XIV).

In the 6th century B.C. King Servius Tullius built walls around the city, which had grown to cover about 1030 acres on the seven hills. Rome became a metropolis in Caesar's time. During Augustus' empire the city had about one million inhabitants, and when Aurelian (274 A.D.) built another wall all around the city its perimeter was almost 60,000 feet. The city was then irregularly built, and very crowded, subdivided into 14 "regiones" with 422 temples and religious establishments, 690 palaces, and 46,622 "insulae" (plots for residential building).[2]

Notwithstanding the city's irregular layout, a distinct zoning system had been worked out. In the triangle enclosed by the Capitoline, Esquiline and Palatine hills, the fora formed the main community center.

In the space enclosed by the bend of the river, now called Campo Marzio, public offices and monumental establishments were grouped (such as the Circus for horse races).

The "Suburra" and the "Trastevere" were the poor residential sections. The "Testaccio" of today, close to the Via Ostiensis which connected the city to its harbour at Ostia, was the main commercial section.

The wealthy people had their residential sections on the Viminal and Esquiline hills. There the plots were developed with detatched houses ("domus"), instead of buildings, occupying most of the "insula".

All emperors added new "Thermae" and "Basilicae" in different parts of the city, but they kept the basic zoning system intact. From the time of Augustus, building and traffic laws existed and were rigidly enforced. Where the old streets were narrowest (most of the streets of Republican Rome were from 7 to 25 feet wide) proticoes had to be built inside the building line when new buildings were erected. Projections from the building line were prohibited. The height of the buildings was often considerable, and some of them reached 60-80 feet in height. Efficient, sanitary sewer lines were built, which must be credited for the good health of a crowded metropolis where the density of the population reached in some sections 210 inhabitants per acre! No epidemic has been recorded for four centuries of the history of the Roman Empire.

The zoning ordinances kept the center of the city entirely clear of residences, and during certain hours of the day only pedestrian traffic was

permitted in the streets of the civic center. Only once, however, was a plan made to transform and redesign a large part of the city as a whole.

This happened after the Emperor Nero set fire to eight entire districts ("regiones"). However, although the general scheme of the city remained irregular and its streets very narrow throughout the centuries, many were the sectional arrangements.

These partial plans included grouping of public and religious buildings or civic centers, whose design was treated with noticeable grandeur and skill.

The grouping of the Forum of Trajan, the Ulpian Basilica, and the markets, was conceived as a unit, and in order to build them the Emperor Trajan flattened an entire hill.

The Roman emperors took particular pride in their monumental constructions. Many of the buildings they left are on such a scale as to create and solve problems of real city planning as well as of architecture. This is true not only in Rome but also in the colonies. The grouping of temples at Baalbec in Syria and Diocletian's palace at Spalato (Dalmatia), are comparable to Hadrian's Pantheon and his Mausoleum. Hadrian had visited Thebes in 130 A.D., and certainly much of the Roman work which was made by him or his successors shows the influence of Egyptian planning. The Forum of Trajan, with the Ulpian Basilica, strongly reminds us of the temple of Ammon at Karnak.

Another Roman city where the castrum scheme failed to materialize, or at least is not strongly shown, is O s t i a (Plate XI).

Ostia is a typical "lineal" city, with the decumanus, 33 feet wide, in a straight line for over three-quarters of a mile. This decumanus led directly to the Via Ostiensis, connecting the sea with Rome.

The city was mostly a civic center with plenty of public buildings, theaters, thermae, offices of the commercial companies, et cetera. At the peak of its development it had about 100,000 inhabitants. It is a good example of Roman planning, and the skill with which the forum is planned with its main space off the main crossroad is worth studying. As we have already pointed out, however, Ostia is most interesting for its zoning and for the placing of the commercial and residential sections widely separated from the harbour. The harbour of Trajan, artificially excavated, covered a water surface of 466,000 square yards (97 acres).

The next group concerns c i t i e s a l r e a d y o r g a n i z e d. The Romans, when conquering highly civilized peoples, did not usually find it necessary to establish new cities. After the military campaign was over the Roman proconsul established himself and his staff in the conquered city, which, from that time on, he considered as his own.

Except for the erased Carthage, all the nations and countries bordering the Mediterranean Sea were absorbed and incorporated in the Roman organiza-

tion. Their cities, whether Greek colony or Egyptian metropolis, passed under Roman domination with the existing city plan and most of the buildings intact. When, following the conquest, new people came to the city and the existing facilities had to be increased, the Romans applied their city planning principles to the existing layout.

The gridiron plan was connected onto the existing street scheme; new sectional arrangements were planned to improve the civic centers; different types of utilization for the different sections of the city were gradually favored, thus creating a city zoning.

Due to the famous eruption of Vesuvius, which buried it in 79 A.D., P o m p e i i is today one of the best preserved Roman cities.

It was founded by the Oscii in the 6th century B.C. and, for over four centuries, had a life of its own independent of the power of the Roman state. The neighboring Greek colonies of Campania and Magna Grecia did business with Pompeii and exchanged their manufactured goods and agricultural products. Greeks mixed with its population and became a predominant cultural factor among the peasants, Samnites and Oscii, who came there from Nola, Nocera, and neighboring towns. A Doric temple of pure Greek architecture, built in this period, may still be seen.

In the year 80 B.C. Pompeii became officially a Roman colony and thence it was gradually transformed. Wealthy Romans established their residences there, and most of the buildings which were discovered in recent excavations show entirely Roman character.

The general scheme of the town has a nucleous of eliptical shape in the oldest part plus further developments with a regular gridiron layout at the north and east sections (Plate XV). Temples and basilicas were built in the heart of the inhabited nucleus while the residences of wealthy people were being built at the outskirts. A partial arranging of the old city gave Pompeii one of the best preserved Roman groups of buildings: its forum.

The Forum is about 100 feet wide and 500 feet long, with a continuous double colonnade on three sides providing architectural unity to the various buildings facing it. The second floor of this colonnade provided a comfortable shelter for the public who attended religious ceremonies and parades held in the open area. The Forum was blocked off from entry by chariots and had a lower level than that of the adjoining streets. By this device, a fuller view of the whole square was also open to whoever passed its narrow entrance.

It is interesting to notice how the civic center thus built was kept aside from the main streets of commercial importance and their traffic. The same point may be brought out upon examining the location of the large amphitheater, which was set in a rectangular square of about 550 by 600 feet.

V e l l e i a was a small town in the Apennines, settled by the Ligures, and it was declared a Roman city in the year 46 B.C.

It seems never to have had a population of over 3,000 people; but its forum has an enclosed space of about 60 by 100 feet and an imposing colonnade (Plate XVI). Stores and offices faced the Forum on the long sides; the northern end was taken by temples and the southern end by the basilica. The mixture of the civic center with the commercial zone is here justified by the small size of the town. The grandiose character of a group of public buildings for such a small town shows the goals of the Romans in their town planning activity.

H e r c u l a n e u m was first a city of the Oscii, then of the Etruscans, then of the Samnites, and it became Roman in the year 307 B. C.

Although close to Pompeii and buried along with it during the same eruption of Vesuvius, it seems to have had an entirely different character. Smaller than Pompeii, in a beautiful geographical location on a hill between two small rivers, it was mostly a vacation place. The few blocks discovered so far show a very regular scheme with rectangular "insulae" lining a wide decumanus running approximately south-east north-west. Houses of Roman architecture are placed in the insulae.

Next for consideration are c i t i e s g r o w n o u t o f m i l i t a r y c a m p s. We have already examined the Roman castrum and the way the basic city planning principles were tested and applied in it.

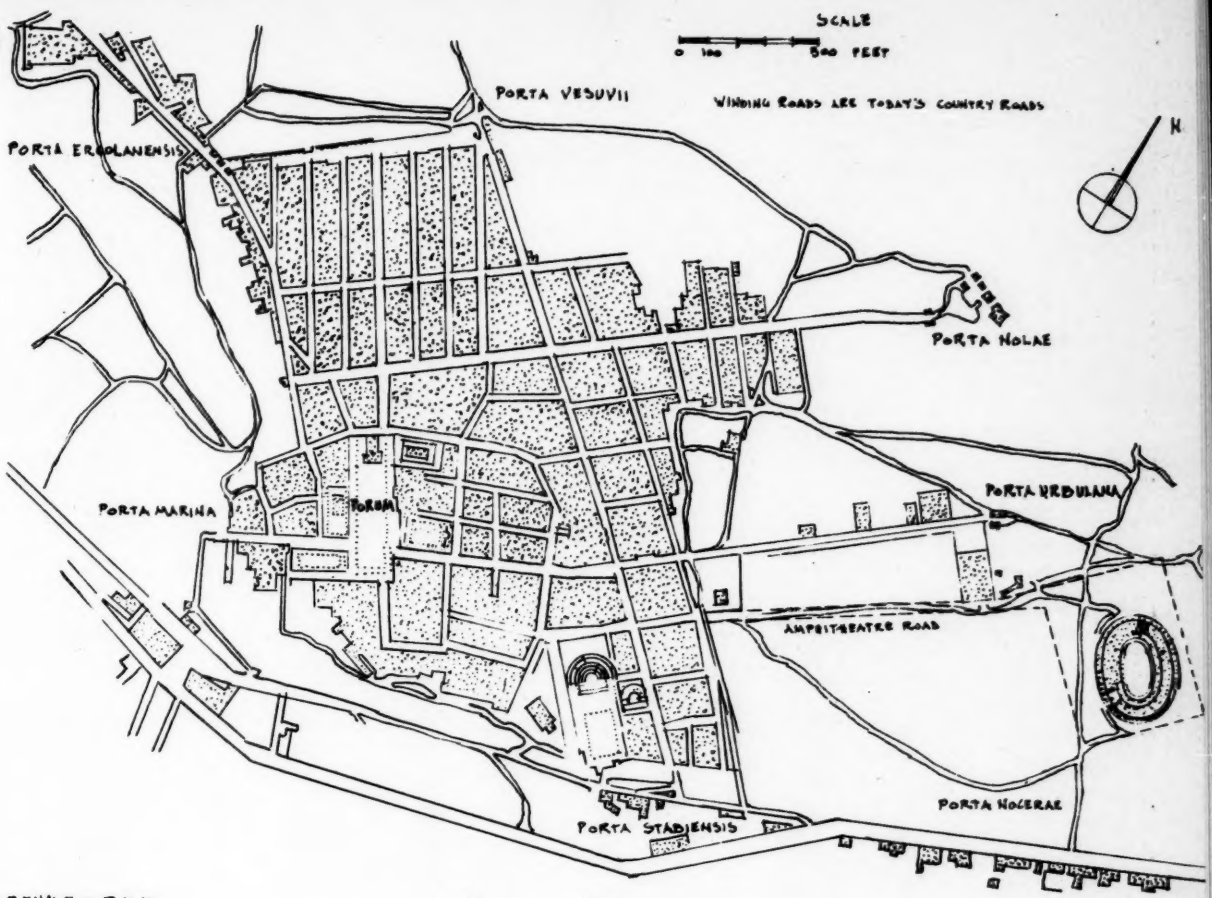
In all castrum-derived cities the principles of a hierarchy of streets, of zoning subdivision, and of provision for growth of the inhabited nucleus, are applied in a standard way. Sectional arrangements and civic centers are generally much more modest in these cities than in those of other types, probably because of their provincial location and because their importance, politically or commercially, was always minor in comparison to Rome, Ostia or the conquered cities of the Middle East. Even when Verona, to cite a characteristic instance, was important enough to require and justify an amphitheater with 30,000 seats, its civic center could hardly compare with the fora of Pompeii, Velleia, or Baalbeck.

The Romans aimed to demonstrate their political power to the conquered peoples by means of impressive monuments. Hence they paid more attention to the architectural embellishments of cities where highly developed civilizations had flourished before their conquest than in the case of their own newly established settlements. Moreover, the existence of a population of skilled workmen and highly trained artists made the job of the Roman governor easier among conquered civilized peoples than among his own tough, rough soldier-settlers.

The Roman city of B o n o n i a (Bologna) was located approximately in the area of the Etruscan city of Felsina, which had flourished since the 6th century B.C. The general layout is, however, that of the castrum, and it has remained practically unchanged until now (Plate XVII). The city was proclaimed Roman in 189 B.C.; therefore the castrum had probably been established there in the beginning of the second century B.C.

POMPEII (ITALY)

PLATE XV



POMPEII'S FORUM

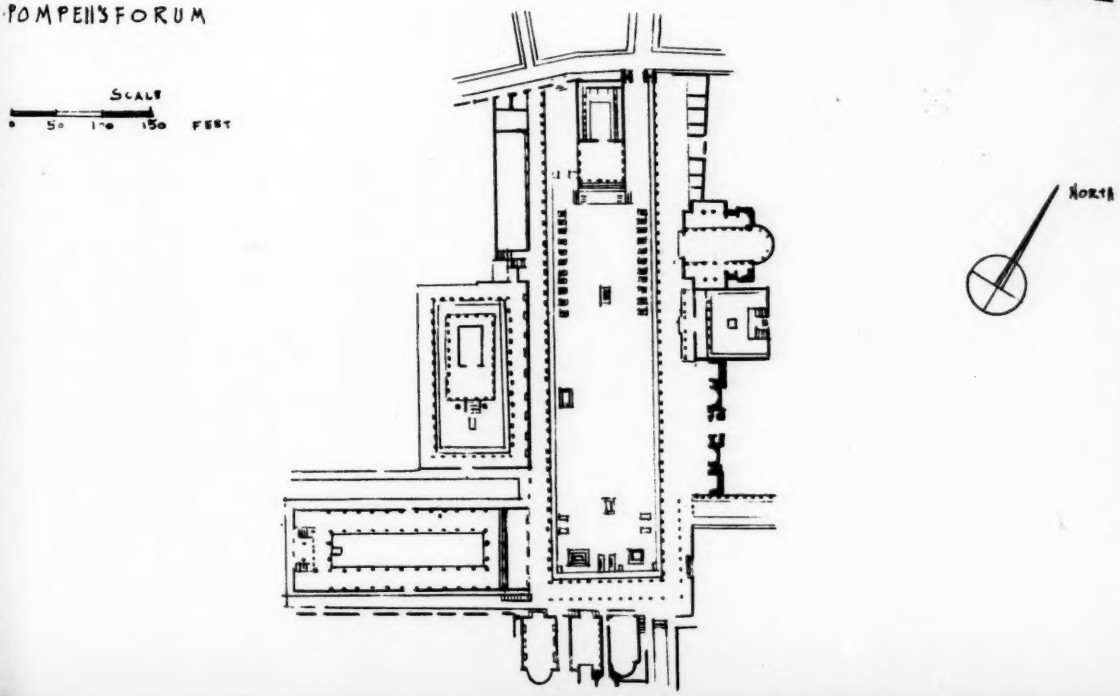
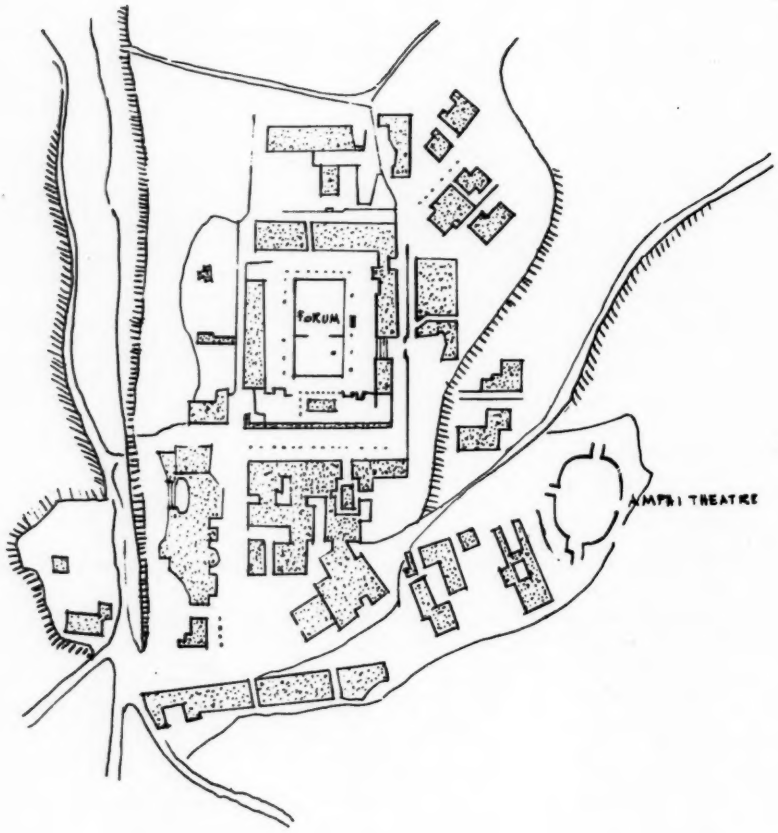


PLATE XVI

VELLEIA (ITALY)



BONONIA (BOLOGNA, ITALY)

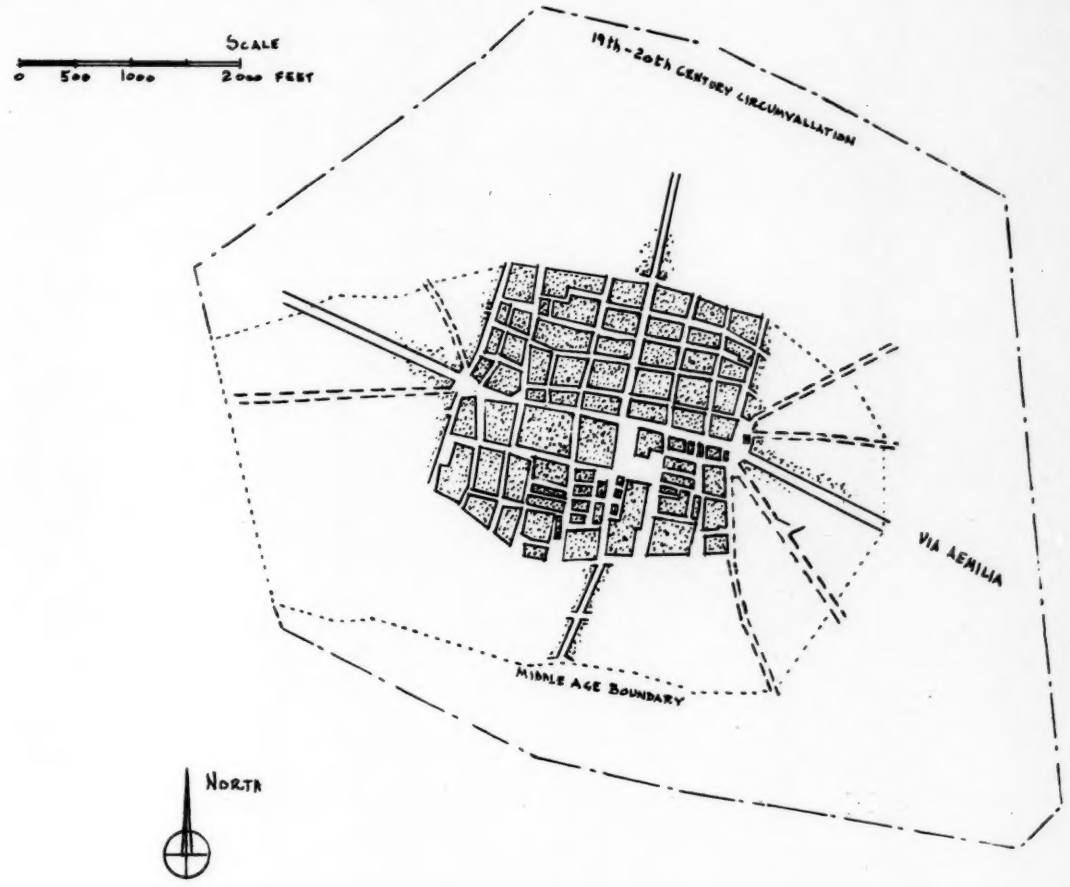
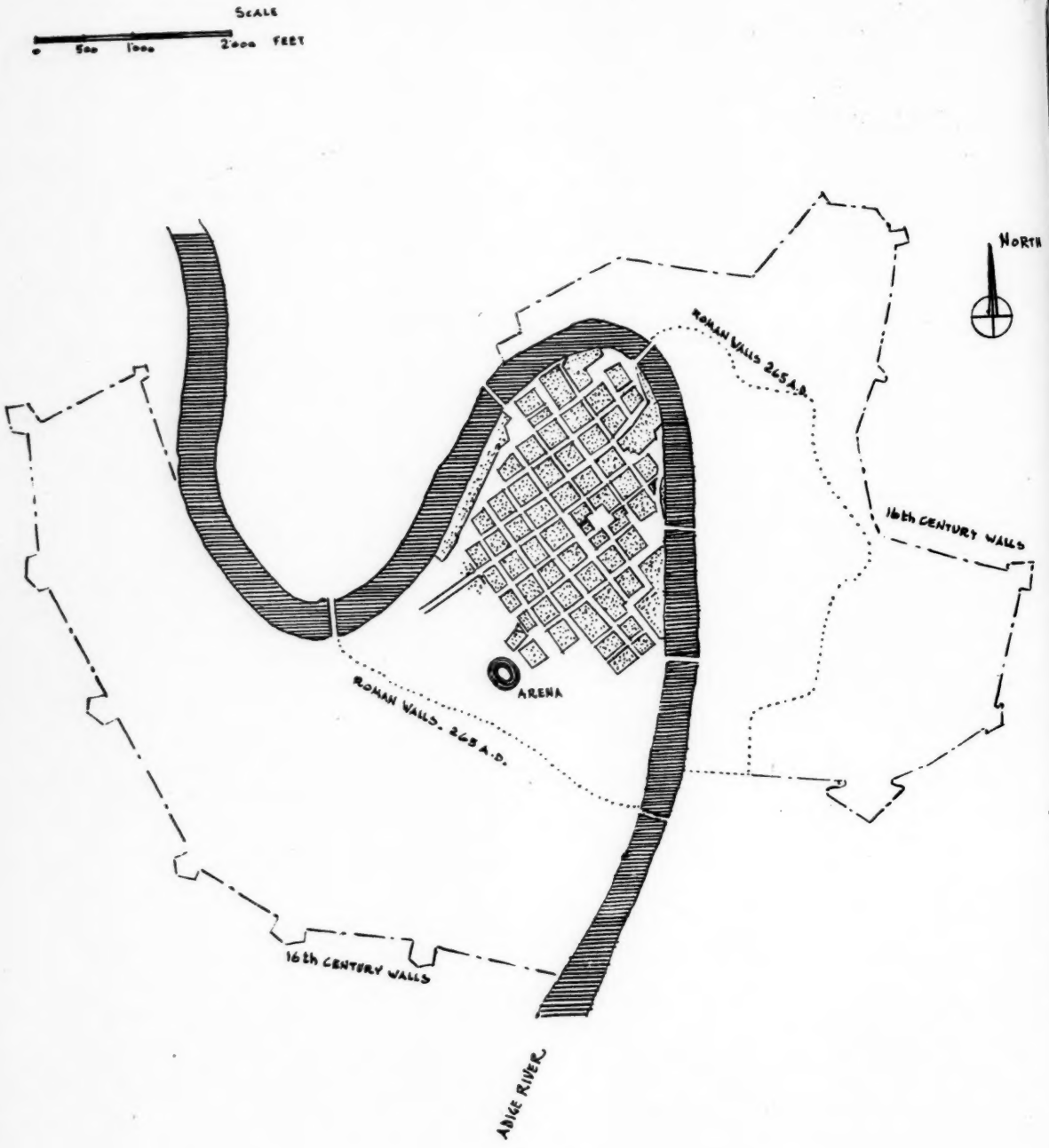


PLATE XVIII

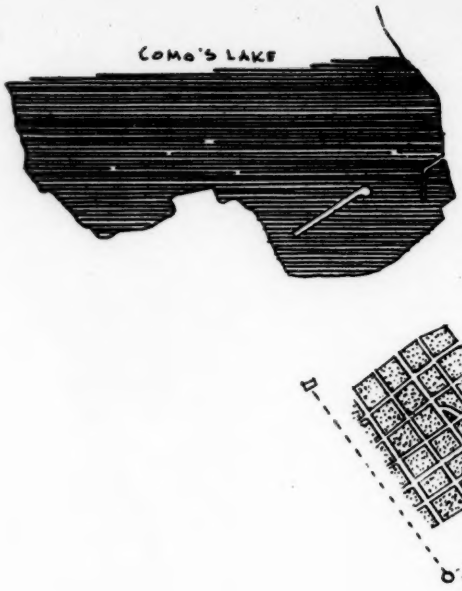
VERONA (ITALY)



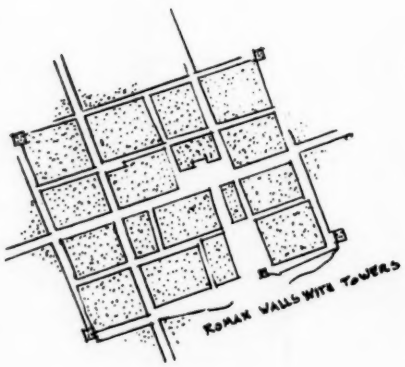
PLACENTIA (PIACENZA, ITALY)

PLATE XX

NOVUM COMUM COMO.ITALY)



AUGUSTA PRAETORIA (AOSTA.ITALY)



The decumanus deviated slightly from its astronomical orientation in order to meet the direction of the Via Aemilia, and the rectangular blocks were set accordingly. Most of the regular gridiron survived all changes of the Middle Ages. The location of the forum at the south-east corner of the main crossing is still evident (today a public square, the Piazza Vittorio Emanuele) and has remained there throughout twenty-two centuries.

After Roman times, Bononia developed in an unexpected way, with streets fanning out from the two gates of the city on the Via Aemilia. Because of this, what we marked as one of the advantages of the Roman plan was lost, for the traffic from many new sectors crowded the original decumanus without the possibility of an increase in its size. This fact was probably due to the reluctance in the Middle Ages to demolish and rebuild the city walls or to open new gates in them. Thus the new developments were forced to bring all their traffic to two points.

V e r o n a also had been an independent city since the third century B.C. and to this fact the general orientation of the gridiron is probably due, since the cardo met eventually an existing bridge or shallows on the Adige River (Plate XVIII).

Declared a Roman city in the year 89 B.C., Verona had its forum close to the main crossing of the cardo and the decumanus (today, Piazza delle Erbe). The famous amphitheater, the Arena, was built in the first century B.C., at the outskirts of the town, and people from the entire province were supposed to gather there for shows and parades. This may be the reason for the little attention paid to its means of communication with the heart of the city, whose inhabitants constituted only a small percentage of the patrons.

P l a c e n t i a (Piacenza) was founded in 218 B.C., during the military campaigns against the Gauls, as a strong point just south of the Po River. The original castrum layout (Plate XIX) is still perfectly visible, and the lack of important monuments is due to the mainly military character the city maintained during all its Roman history.

A similarly clear derivation from the castrum is evident in C o m u m (Como) (Plate XX,a) on the shore of the Larius Lake. Founded about the year 196 B.C. by the Consul Claudius Marcellus, the city was allowed to enjoy the rights of Latin law in the year 89 B.C. Slowly developed and settled by veterans of the armies of many Roman generals, among them Julius Caesar, it has kept its basic layout unchanged until today. It is interesting to notice how the castrum, and therefore the town, had been set at quite a distance from the lake shore in order to allow the expected traffic and handling of merchandise in the natural harbour on the lake to move without interference by city traffic.

L u c a (Lucca), ancient city of the Italic tribe of the Ligures, was rebuilt entirely on the Roman castrum and settled as a Roman colony in the year 180 B.C. The gridiron layout underwent very few changes throughout the centuries and the location of the Roman forum is preserved in today's Piazza

San Michele, close to the main crossroad, (Plate XXI, b).

F l o r e n t i a (Firenze), settled by Sulla about 83 B.C., was laid out in a similar way (Plate XXII), but the civic center of the Middle Ages with the cathedral, was shifted from the old forum to the north-east corner. The general layout was kept regular throughout Roman times, but its main lines were disregarded by expansion during the Middle Ages.

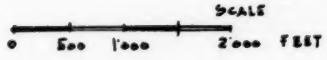
In the year 62 B.C. the army of the rebellious Catilina was gathered on the ground which was going to be the city of P i s t o r i a (Pistoia) (Plate XXI, a). The shape of the city underwent considerable changes in post-Roman times, and the original gridiron was deformed in many ways. However, the cardo and the decumanus are still noticeable today and the square at their crossing, free of buildings, shows the location of the old forum.

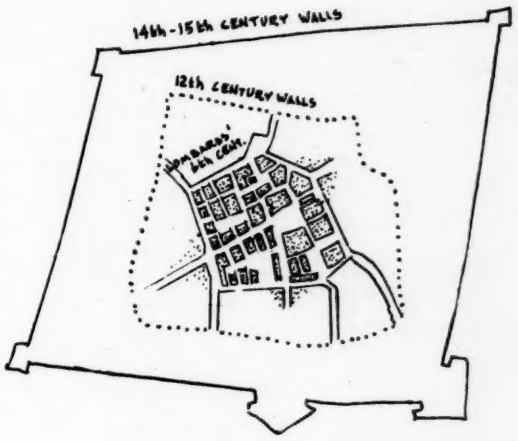
A u g u s t a T a u r i n o r u m (Torino) shows very clearly the original layout of the castrum (Plate XXIII). In the location of one of the old castrum gates a huge square still remains. Traces of the old forum may be recognized at the north-west corner of the crossing of the cardo and the decumanus.

A u g u s t a (Aosta) was another castrum, settled by Augustus' soldiers about 25 B.C. The city is comparable to Comum in general size, but the fewer blocks are of larger size and separated by larger streets (Plate XX,b).

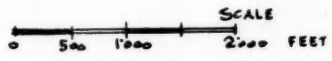
As shown by the sketches which are drawn to the same scale, the particular feature of the block size seems to have been of secondary importance to the Roman generals in settling their castrum. Each general probably decided the size according to his personal liking, although the most common block for Roman cities seems to have been a square of about 250 feet on a side.

PISTORIA (PISTOIA. ITALY)





LUCA (LUCCA. ITALY)



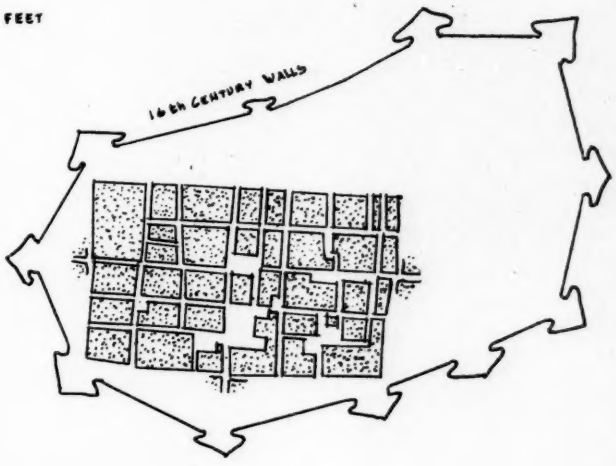
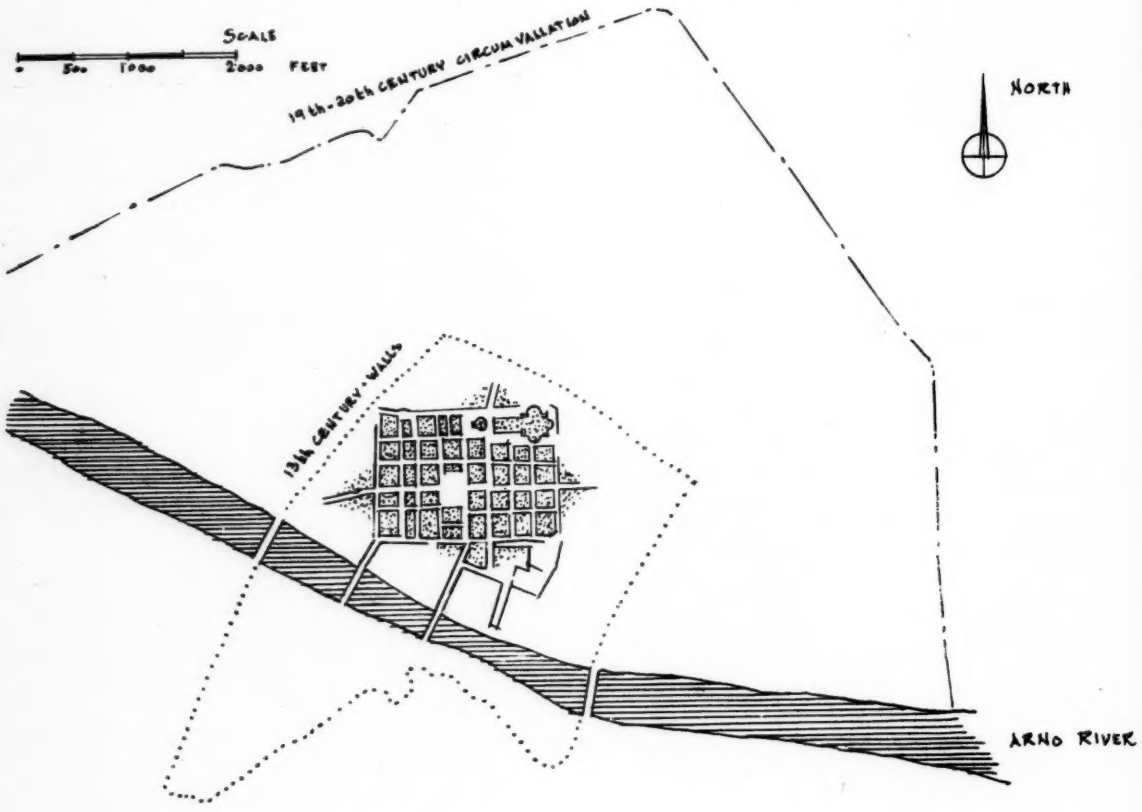
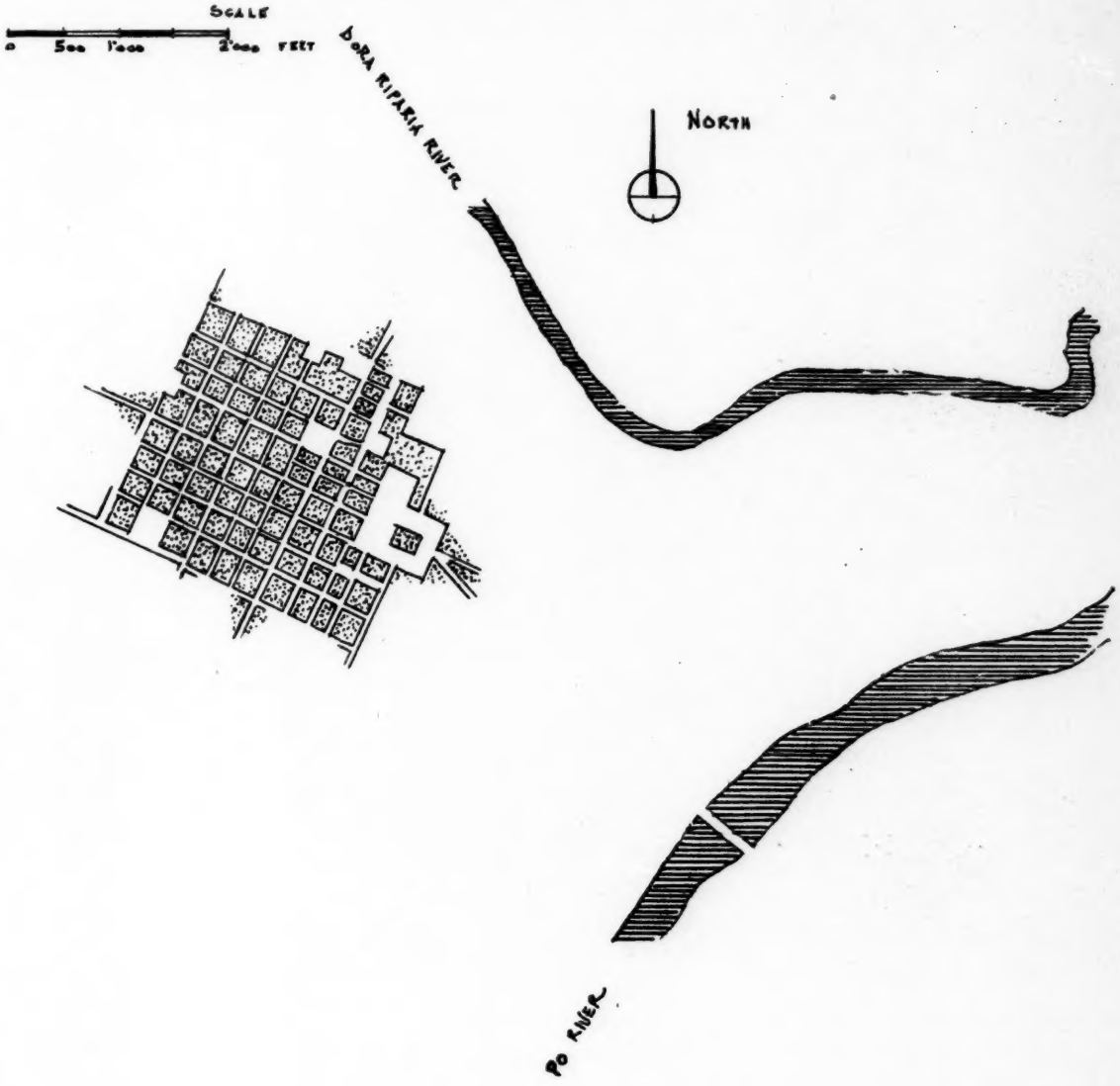


PLATE XXII

FLORENTIA (FIRENZE. ITALY)



AUGUSTA TAURINORUM (TORINO. ITALY)



COMPARATIVE CHARACTERISTICS OF GREEK AND ROMAN CITY PLANNING

GREEK	ROMAN
2000 B.C. - 146 B.C.	753 B.C. - 496 A.D.

Social and political

For the greatest part of their history, the Greeks developed their civilization as a group of independent nations bound together only by a common language, a similar religion, and the same adventurous character of seafaring people. The political leadership provided successively by Mycenae, Athens, Thebes or Sparta, neither deeply influenced nor standarized the laws or institutions of the various cities, nor did it establish a centralized power. The unified nationhood obtained by the Greek-speaking world in the 4th century B.C., after the Macedonian conquest, was of short duration, and seemed to take advantage of common preexisting characteristics rather than to produce them.

The evolution of the political units from the state of small, autocratic kingdoms to the position of communal democracies and to the final role of parts of the Macedonian Empire was more the result of local and casual contingencies and strong personalties than of changes brought about by experience and the development of new theories of government.

The Romans appear to have been at the beginning of their history a small group of people extraneous to the large majority of nations and political organizations among whom they settled and established their city. For over three centuries their history is one of a fight for survival among different foreign civilizations and of a slow absorption and development of outside influences. Politically, their autocratic kingdom developed into a mighty republic, which acquired expansionist character and built up a strong nationalistic feeling.

The wonder of the Roman organization is the ability to associate the conquered peoples with its destiny after they had recognized the centralized Roman power. With the transformation of the Republic into an Empire, brought about at the beginning, at least, by strong personalities and without apparent changes in the organization, the centralized power of Rome kept on applying sets of standardized rules and principles, unifying the laws as well as the ways of life of the people, throughout the vast territories it controlled. The Romans, however, were always ready to bring into and to absorb into their own civilization what other civilizations had developed, particularly in artistic fields. In this way, even the influence of Hellenic art was felt, through Roman interpretation, in territories and regions where Greek merchants and tradesmen had never gone.

General layout

The layout of Greek cities was at first a monocentric one, with a tendency to the radii-and-concentric-circles layout, not dissimilar from the older one of Western Asiatic civilization. The development of nations with independent character, and the transfer of power from the hands of the autocratic kings of Homeric times to the people, substituted the temples and the civic center for the ruler's residence on the top of the hill, around which the city grew. The acropolis thus formed was usually walled and protected independently from the city itself. Local conditions influenced the layout. Sometimes, as at Delphos, holy zones were separated from the city and were laid out more in relation to geographic conditions than to a prearranged scheme.

Needs for subdivision of the ground brought about the gridiron plan in the Greek colonies overseas. From this colonial experience, as well as from Egyptian influence, Hippodamus composed theories on the design of new cities, and applied them to new layouts as well as to the reconstruction of old ones. However, these layouts maintained a large degree of flexibility of adaptation to the land as well as to the requirements of the community. The common characteristics of the Greek gridiron plans are to be found among a lot of details and variations, which leave to every plan its individuality (Piraeus, Miletus, Priene, etc.).

The Romans formed their city planning standards after a slow absorption of the studies and experiences of preceding civilizations. They reduced their scheme to a skeleton-like structure applicable to almost any conditions and based principally on military and practical needs. Most of the Roman cities, except Rome itself, were developed from the design of the castrum. When a new settlement was planned, a territory was chosen where a flat surface allowed the use of the standard gridiron plan (Bononia, Florentia, Luca, etc.).

Whenever an existing city had to be expanded, effort was made to connect the existing plan to a new gridiron scheme, resembling as closely as possible the standard castrum layout. (See Pompeii.)

The few items which formed the set of rules the Roman city planners went by were rigidly applied. Neither climate nor geographic conditions made the Romans change their basic standards (Augusta; Comum; Timgad, North Africa; Silchester, England; for example).

Zoning

Before Hippodamus, Greek zoning seems to have been limited to the separation of the civic and religious centers from the residential sections. In some of the colonies, buildings of commercial character were mixed among the residences, since most of the citizens were more or less shopkeepers (Selinus).

The growth in importance of trade and commerce led business activities to mingle with political ones. Market places and "stoa", where business was transacted, recreational centers and political meeting places, are usually part of the same large civic center (Priene, Miletus, Pergamum, and others). However, where the commercial activities assumed the character of industry or trade on a large scale, sections of the town are dedicated to warehouses (Piraeus, Syracuse).

The Romans took from the lake-dwellers the custom of separating the civic center from the other plots of their gridiron plan. This zoning principle remained deeply rooted in all Roman layouts and it is found also in the simplest military establishments. Zoning in all its forms, became typical of Roman cities. Not only were commercial and industrial zones separated from residential ones, but also more particular subdivisions were used, with entire streets occupied by the people engaged in one particular profession. (Clivus Argentarius, Vicus Frumentarius, Vicus Sandalierius).

Zoning requirements were enforced by rules, as in Rome, and carefully considered whenever a large work had to be planed (Ostia's harbour).

Hierarchy of streets

Streets leading to the civic center, or conveying heavy traffic, were given larger sizes as soon as their importance had been recognized (Selinus). Traffic needs were taken into account by Hippodamus (Piraeus) and by all experienced Greek planners (Canobic street at Alexandria). Local conditions usually decided the location of the main and secondary streets (Knydos, Miletus, Piraeus).

Following also in this respect their lake dweller predecessors, the Romans designed their urban communities with two main axes leading to the town gates. Theaters and amphitheaters were usually placed close to larger main arteries, and given space around them in order to convey the crowds in and out (Pompeii, Verona).

The standardized scheme was indiscriminately applied to all conditions; the location of the public buildings was mostly decided according to the scheme, rather than as suggested by the layout of streets adapted to traffic requirements.

Architectural effects

Architectural effects of proportion and balance are typical of Greek cities. A refined feeling inspired the builders to accentuate points of view of special interest, perspectives, enclosures, rhythms. The Greek monumental center is usually an unsymmetric one. Right angles are not required in the plan; rarely is the civic center entered on its axis. Flights of stairs, skillfully designed, balance a shorter colonnade in front of a long one (Assos); or a long portico underlined at the foot of the hill the stepped terraces of the market places (Pergamum).

The Romans search for standardized elements made them look for architectural effect in symmetric, right-angled squares. Continuous porticoes and colonnades were built in front of other buildings, to square out the space and to unify the view (Pompeii, Velleja). Symmetry is often observed beyond any necessity in large groupings of buildings which could not, obviously, be seen all at one time (Baalbek).

Huge dimensions and gradeur of the masses are substituted for refinement and skill in balancing volumes and spaces.

Expansion of the cities and regional planning

Greek cities took care of their expansion, in the majority of cases, with the establishment of new, separate nucleuses as soon as the original area became too crowded (Piraeus). Instead of expanding the residential quarters around the existing civic center, the new developments took the form of satellite nucleuses with their own public and private facilities, as in the case of new cities (Syracuse).

The typically seafaring Greeks did not go beyond the establishing of intercity roads in their developments inland.

During the empire Rome grew to a population of almost four million people. Its expansion was very much like the disorderly growth of cities of the present day. However, all other Roman cities seemed to have been given, at the time of their expansion, a plan which connected the gridirons of the new developments to the existing one. The centralized Roman power and schematic, standardized rules eased the way for proceedings of this kind. Moreover, in most of the agricultural land outside the cities, the network of roads which subdivided the property of the settlers (the "Centuriatio") constituted the basis of the new development.

New York City

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[1] G. Giovannoni, Vecchie Citta ed Edilizia Nuova (ed. Utet) Turin, 1931, p. 20.

[2] C. Chiodi, La Citta Moderna (ed. U. Hoepli), Milan, 1935, Part I, p. 7.

BOOK REVIEWS

Colonial Architecture and Sculpture in Peru, by Harold Wethey. Harvard University Press, 1949. 330 + xvii pages, 366 illustrations. $12.50.

Everyone who is familiar with the field of Latin American art knows the paralyzing lack of books on the subject. All sorts of books are needed: basic documentation, popular introductions, philosophical interpretations, simple picture-books, outlines of the general disposition of the material, detailed studies of all its aspects. Everyone who works in this field is faced with the problem of deciding what sort of study seems to him at this time possible, practical, and desirable. One catches a note of this forced decision in Mr. Wethey's frank admission that he would like to have treated the whole region of Alta Peru; his exclusion of the Bolivian monuments represents a reasonable expediency. His contribution in this volume must be appraised in reference to the poverty of published material. It is actually the first study in any language to attempt a comprehensive picture of the two arts, architecture and sculpture, in the Viceregal period; for the only detailed treatment before this, the chapters by Marco Dorta in Angulo Iniguez's Historia del arte hispano--americano, I. deals only with the sixteenth century. The secondary sources on which the author could draw are of the most fragmentary nature: brief, popular articles on the one hand, and, on the other, documents and other material which deals only parenthetically with artistic matters. It would be difficult for a student of the Renaissance or the Middle Ages to appreciate the amount of labor in uncatalogued archives, of arduous travel and photographing, and of pioneer appraisal which lies behind the simple statements of fact in a book like this.

In the face of this problem, Mr. Wethey has chosen the road of describing, cataloguing, and classifying his material. Aside from a brief, general statement of twenty-five pages, the book is given over to the specific monuments, the buildings arranged geographically, and the sculpture divided into three categories: choir stalls, pulpits, and retables. This is followed by an appendix cataloguing the monuments of Lima. There are three hundred and sixty-six illustrations. To say that future students will be in debt to the author for this divulgation of material is understatement: up to now it has been impossible to study Peruvian colonial art at all without making an expedition to Peru. It seems to me that we are fortunate in having a first study of so high a calibre of objectivity, from a scholar who can bring to the problem so experienced a knowledge of its Spanish background.

As a partisan I might object to Mr. Wethey's opening statement that Peru holds first rank among the Spanish colonies for its artistic achievements (Mexico seems to me to have more monuments, older, and in many cases finer, than Peru), but this enthusiasm is, after all, appropriate. On the basis of his plan of study, one could complain that there is not enough factual material: that in a catalog we should always have such basic statistics as materials and dimensions, as well as clearly described dates. Very seldom does the author argue out his statements for the reader; the notes indicate his sources, but almost never identify the kind of information which has led

to his decision. For a work of this sort they seem cursory in regard to both documentation and conflicts of opinion. I am aware, however, of the reason for all of this: it is simply the magnitude of the task, which Mr. Wethey has chosen to map out rather than to leave still undone.

In fact it is only in more general terms, and from a larger point of view, that Mr. Wethey's book may be criticized. Latin Americans will find it dry; students of history and culture will find in it little recognition of the integration of art with other phenomena in the colonial environment. Nor is it quite just to excuse the author from such considerations on the grounds that he undertook simply to present a catalog. True, that one must first know the material, but the notion that classifying this material is a preliminary to interpreting it overlooks the fact that the choice of terms for classification is in itself an interpretation. Thus one feels some regret that the author's descriptions are so strictly in terms of structure and style, and that in regard to style he has been content with the stereotyped concepts of the European styles, and the equally familiar mestizo. His intention to "follow established usages" is unexceptionable, if he is sure that no new material will intrude. But when one finds him hunting for examples, saying that "the only Peruvian work which could conceivably be called plateresque is the portal of the Jesuit chapel . . . . in Ayacucho," one wonders why he considers the Plateresque a category relevant to this material. Underlying his descriptions there seems to be a tacit agreement that Peruvian styles derive from Spain and are properly to be described as more or less faithful to some Spanish original. We are on delicate ground here, for obviously Spain is the mother of the colonial arts; but one wonders whether the Peruvian altarpieces might not yield their own, richer, categories of classification if they were examined rather on their own terms than in the light of their ancestry. What we want is not so much a measuring of these monuments by the old imported rule, as a search to discover their special qualities.

Certainly the most interesting parts of the text deal with the monuments which are labelled mestizo. Here it is recognized that the New World made its contribution, that European style was indeed modified in the hands of native workmen. Although Mr. Wethey does not consolidate his observations into a definitive description of mestizo style, he does, in dealing with one monument after another, build up such a description by implication. Thus he speaks of "angels and filling ornament as abstract in their natural primitivism as any of their Merovingian, Coptic, or Mozarabic predecessors" or of decoration "completely stone in texture and quality". What he does not face, it seems to me, is that these modifications amount to mutation, of such a scope that the resulting art escapes from the old categories. Mestizo is not really an alternative to other "styles": is not the church at Pomata also baroque, also mudejar? When an artefact falls under two or three categories, one had better examine the usefulness of these categories as modes of description and understanding. The trouble may be that the mestizo is not so much a style--in the sense of a complex of specific traits of design and technique--as a condition. Limiting the term to the specific traits of style of a region in the Southern Andes has obscured a larger understanding of the mestizo as a mood which is functioning more or less throughout the whole colonial experience. Why, for example, are San Xavier at Nazca and Santo Domingo at Ayacucho not

mestizo buildings? They too seem to have come into being through the working of provincial Indian attitudes on European style. And what about the cultural implications of the mestizo chronology? That these manifestations crystallize not in the early years of the Conquest, but after the middle of the second century of colonization, is a matter which deserves not merely comment but probing. Chronology is, indeed, one of the traps for historians of American art: for the world at large, this was the baroque period, and it was largely with baroque motifs that the colonies were working; but this does not exclude the fact that they were also in a primitive period, far nearer in mood to the early Middle Ages than to the Rome of Bernini.

But the author never deals with the relation of his mestizo style to what we know as popular or folk art---where the clues to the whole matter may perhaps lie. This is evidenced on his excluding architectural sculpture from the discussion of sculpture in its other forms, from his total neglect of the figure sculpture of facades, from his inserting three bronze baptismal fonts only in a footnote (are there no stone fonts?), overlooking entirely carved stone crosses, and eliminating "very primitive objects . . . . amusing in their ingenuousness" without any illustrations. It is perhaps true, as Mr. Wethey says, that we have a tendency today to overestimate primitive art; but can one justly describe Peruvian art without considering the primitive? We are left with an uneasy hope that the root of the situation may lie precisely in these objects dismissed as insignificant and without "true artistic worth". I suspect his statement that in sculpture "No . . . . master of outstanding distinction ever appeared in Peru," suspect that it shuts the door on understanding, and even seeing, what is in fact a splendid anonymous popular art. We are brought back again to a choice of objects from colonial art which conform more or less acceptably to the European standards of the time.

But these are the problems, by no means easy, with which Americanists will have to grapple for a long time to come. It would be indeed peremptory to ask their solution of Mr. Wethey, especially in view of the imposing extent of his work of documentation.

Elizabeth Wilder Weismann
Ohio State University

An Exhibition for Modern Living, (102 pages, 140 illustrations), The Detroit Institute of Arts, 1949, $1.00

This book, published as a catalogue for the Detroit Institute of Arts exhibition "For Modern Living", and edited by A. H. Girard and W. D. Laurie, Jr., with the special assistance of W. A. Bostick; is enjoying a love-at-first-sight reception from those who are interested in progressive contemporary design.

A few moments spent leafing through the book reveals at once some of the reasons for the spontaneous endorsement. It is a book of many parts, most of it visually inviting. The plastic bound cover with its satirical drawing by Saul Steinberg is fresh and engaging. The typographic design is an adequate but not outstanding example in the contemporary idiom which, we are happy to report, does not strain itself to use lower case letters exclusively. There is an introduction by E. P. Richardson, a historical section with an essay by John A. Kouwenhoven, a brief article by Edgar Kaufmann, Jr., several pages of drawings titled: "As Steinberg sees us", thirty pages and ninety-nine photographs (my count) of utensils, toys, tools, tableware, furniture, fabrics and other object examples of good design. Last but not least there are eighteen pages featuring twenty large and handsome photographs which deal mainly with room-like areas where designers Aalto, Risom, Mathsson, Knoll, Eames, Nelson and others have developed the theme of Modern Living; each designer utilizing his own furniture together with appropriate accessories in groupings demonstrating their use in the home. The comment which accompanies these photographs is based upon statements the designers have made about their work and aims.

John A. Kouwenhoven's essay "The Background of Modern Design", although necessarily brief is one of the most informative and keenly analytical statements of its kind and for its length that I have read. Calling attention to the two divergent traditions in American design and industry, the utilitarian and the artistic, he shows that over the last century our useful products - axes and water pails, reapers and wringers - have won respect at home and abroad wherever they were known and used. These implements and utensils were products of a vernacular tradition which grew directly out of the two main forces shaping modern civilization - democracy and the machine. Out of our democratic institutions which made for a scarcity of servants, evolved nineteenth century American homes which, for all their servile and snobbish imitation of aristocratic handicraft in "artistic" matters were unequaled by the domestic architecture of Europe in the arrangement of rooms for convenience, economy of living and the employment of practical labor-saving devices.

He goes on to show that modern design in the organic meaningful sense is deeply rooted in this vernacular tradition of our machine-age democracy. Unfortunately this is still not understood by many designers for as Kouwenhoven observes, "too many of the industrial designers of our time have simply translated into contemporary terms the decorator attitudes which afflicted the nineteenth century architect." Superficial styling can take many forms. It can manifest itself in the pretentious application of Sheraton details to a television cabinet, or in a "style" of plain surfaces,

or as a cliche of new motifs - streamlining, flat roofs, egg shapes, tubular structures, cantilevers, rubber plants, et cetera - now being applied willy-nilly with exactly the same intent and understanding with which the preceding generation of designers embellished their designs with broken pediments and cabriole legs. Mr. Kouwenhoven observes the real challenge of modern technology is that it has provided us with "materials and techniques which can enable us to revise our whole stock of inherited assumptions. . . ."

To return to the physical aspects of this little book, it makes imaginative use of papers of varying color and texture, and one turns from colored pages to white, and from pages of unfinished paper to highly surfaced enameled stock with visual surprise and delight. This simple device could be utilized by a far greater number of our book designers.

As in most love-at-first-sight affairs, a closer look at the object of our affections usually reveals some weaknesses. In this case the weakness is primarily one of omission. Conspicuously absent are designs having to do with any form of transportation or locomotion (except for the sandle by Rudolfsky). This is regrettable for one of the most dominent characteristics of our society is its mobility and the technological devices which make possible this movement. Absent too are any photographs of the multitude of household and personal appliances which are an indispensable part of modern living. There are no examples of cooking ranges, sweepers, washers, coffee makers, mixers, storage cabinets, refrigerators, to name a few omissions. Granted that a great many of these appliances available on the market today are so over-styled and falsely streamlined that they do not belong in a book devoted to good design, still there are enough excellent solutions in these products to warrant their inclusion. Contrasted to this dearth of many things there are no less than six variations of pitchers displayed. They are very handsome too but I do not believe pitchers are so significant.

Although Saul Steinberg's cartoons are wonderful satirical observations of our institutions and mores, eleven pages of them in this particular one hundred and two pages is excessive. It is too bad the enthusiasm for Steinberg could not have been trimmed in half and the resulting extra pages used to expand the selected objects section of the book. It is also regrettable that some of the photographs in this section are watery in tone, suffer from what appears to be too much retouching, and occasionally are blown up too large for their content.

Generally speaking, with reference to omissions and duplications and in terms of presenting a comprehensive view of design for modern living the book falls short of a similar monograph Good Design is Your Business published in 1947 by the Albright Art Gallery in Buffalo.

All in all, however, the positive qualities of the book far outweigh the negative and it is in my opinion easily the biggest dollar's worth (plus postage) of art book available today (direct from the Detroit Institute of Arts and through many bookstores).

James Shipley
University of Illinois

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Note on arrangement

Inasmuch as most JOURNAL readers are familiar with the Art Index the JOURNAL Bibliography is designed to supplement the Art Index and approximately the same arrangement and abbreviations are used. Authors and subjects are arranged in one alphabetical file and under these, titles are filed by the first word (initial articles being disregarded). Subdivisions of a subject are arranged alphabetically or chronologically under the subject, country subdivisions following the form subdivisions. For some subjects arrangement has been by town or locality.

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The Okauchee house. il Wis Mag Hist 33: 7-14 S '49

WHISTLER, Laurence

Newly discovered Vanbrugh designs for Claremont. il Country L Lond 105: 426-427 F 25 '49

WILLIAMS-ELLIS, Clough

Leisure in the landscape. Lecture at the international conference on landscape architecture. il Archs J 108: 225 S 2 '48

WREN, Sir Christopher

A site to be sold. il Archs J 110: 60 Jl 21 '49
Six Wren churches which are not to be rebuilt. il Archs J 110: 65 Jl 21 '49

WRIGHT, Frank Lloyd

Theatre at Hartford Connecticut. il Archs J 110: 97-98 Jl 28 '49

YEATES, J. D.

The manor house of a vanished village. il Country L Lond 106: 891 S 23 '49

ZACH, Leon

The education of the landscape architect. Paper read at the international conference on landscape architecture. Archs J 108: 179-180 Ag 19 '48

ERRATUM in the Current Bibliography of Architectural History for January 1947 - June 1949, published in the JOURNAL, Vol. 8, Nos. 1-2, Jan - June 1949.

The name of Mr. Angus W. Acworth was misspelled "Ackworth" on pages 94, 100, 107. Mr. Acworth is the author of a recently published book Georgian Architecture in the British West Indies.

INDEX TO VOLUMES 4 - 7

An index to Volumes 4, 5, 6 and 7 of the JOURNAL is being mailed with this issue. For convenience in binding it has been kept separate from Vol. 8, Nos. 3-4.

1950 ANNUAL MEETING OF THE SOCIETY OF ARCHITECTURAL HISTORIANS

The annual meeting of the Society of Architectural Historians will be held concurrently with the meeting of the College Art Association of America at the Drake Hotel in Chicago on January 26, 27, and 28.

Papers will deal with the "Architecture of the Chicago School and Vicinity" and are as follows:

H. H. Richardson and Henry Adams' "Inner Circle", by Ernst Scheyer, Wayne University

Richardson's "Lost Building" and the Landowner, by J. Carson Webster, Northwestern University

The American Cottage Style from Andrew Jackson Downing to Frank Lloyd Wright, by Vincent J. Scully, Jr., Yale University

Some Aspects of Mid-West Regionalism as Expressed in the "Chicago School", by Hugh D. Duncan, Northwestern University and The Institute of Design

A City Called Beautiful, by Christopher Tunnard, Yale University

Background of the Domestic Architecture in the San Francisco Bay Area by Elizabeth Kendall Thompson, Architectural Record, and Robert M. Church, San Francisco Museum of Art.

Presiding over this session will be Buford L. Pickens of Tulane University, Vice-President of the SAH. President Carroll Meeks will preside at the Annual Luncheon and Business Meeting which will precede the afternoon program on January 27.

On the evening of January 26, and through the good offices of the University of Illinois, Navy Pier, Erich Mendelsohn will speak on "My Own Contribution to the Development of Contemporary Architecture."

An exhibition of drawings by Louis Sullivan and others will be held in the Burnham Library of Architecture of the Art Institute of Chicago. Bus tours of Chicago Architecture, arranged by J. Carson Webster of Northwestern University, will add attraction to what promises to be a stimulating program.

ANDREWS AND LANCASTER ADDRESS NEW YORK CHAPTER, SAH

A meeting of the New York Chapter was held at Hunter College on December 2, 1949. Alfred Andrews and Clay Lancaster took the group on a verbal and visual exploration of "Nineteenth Century Architecture in Kentucky" opening new vistas in the rich heritage of that bluegrass state.

NEWS ITEMS

CINCINNATI CHAPTER, SAH, PROPOSED

It is reported that another local chapter of the SAH is about to be born - this in Cincinnati. Such a chapter would serve as a center for the Ohio Valley region. Those interested, and resident in the region, should communicate with G. Frederic Roth, A.I.A. 35 East 7th St., Cincinnati 2, Ohio.

GRIFFIN MANUSCRIPTS IN NEW YORK AND CHICAGO LIBRARIES

Architectural historians, whose interest is related to the Chicago School, and others as well, will be glad to learn the location of two copies of Mrs. Walter Burley Griffin's typescript about her husband's life and work. Mr. Wayne Andrews reports that one copy is in the New York Historical Society Library, the gift of Mrs. Griffin. It is copiously illustrated and comprises eight volumes. That Society has also received a collection of clippings from Mrs. Griffin, covering Mr. Griffin's work in Australia. These have been made into a scrapbook.

Mrs. Hofmeester of the Burnham Library of The Art Institute in Chicago reports that the Burnham Library also has a copy of the manuscript and some 360 miscellaneous drawings by both Mr. and Mrs. Griffin.

GEORGIAN GROUP VISITS HISTORIC SITES

During last summer the Georgian Group arranged a series of visits to historic monuments in and about London. These included Wardour Castle, Clifton Hall, Weston Park, Tong Castle, Chillington Hall, St. James's Palace, No. 44 Berkeley Square, Mereworth Castle and Langley's. Remembering the keen enjoyment of SAH members in visiting historic buildings in and about Boston, some summers past, it is suggested that local groups consider such a program of visits in their regional areas for the summer of 1950.

LITERARY PRODUCTION OF SAH MEMBERS

Another of George H. Edgell's many interests is revealed by his book, The Bee Hunter (Harvard University Press, $2.50) published in late August. As reported in Time (September 5, 1949) Mr. Edgell explains, in this book, his proven method of tracking down a hive of wild honey. One may safely assume that this explanation will not lack wit and wisdom.

Harold E. Wethey's book, Colonial Architecture and Sculpture in Peru was a fall publication of the Harvard University Press and is reviewed in this issue by Elizabeth Wilder Weisman. Mr. Wethey has been awarded a Guggenheim fellowship for 1949-50 to further his study of Alonso Cano, Spanish 17th century architect and artist.

The August number of the A.I.A. Journal is exceptionally representative of the SAH. The guest editorial for that number is by our vice president, Buford L. Pickens. Other articles are by our president, Carroll Meeks and by past president Turpin Bannister.

The second edition of Christopher Tunnard's book Gardens in the Modern Landscape (Architectural Press, London 18s 6d) was published early in 1949.

Sigfried Giedion has revised and enlarged his widely read work, Space, Time and Architecture. The new edition appeared in December.

Theodore Sizer's book on Trumbull is to be published by the Yale University Press in the spring of 1950.

H. Paul Caemmerer's study of Pierre Charles L'Enfant, Planner of the City Beautiful is scheduled for April publication. The edition will be limited and those wishing to obtain a copy should order through Mr. Caemmerer, National Commission of Fine Arts, Washington, D. C.

Robert B. Shaffer, whose article on "Emerson and his Circle, Advocates of Functionalism" appeared in the January-June, 1949 issue of the JOURNAL has written on "Ruskin, Norton, and Memorial Hall" in the Spring, 1949 issue of the Harvard Library Bulletin. In this Mr. Shaffer presents aspects of the controversy which has centered about this historic Harvard landmark from the time of its initial conception.

KODACHROME SLIDES OF WILLIAMSBURG

Those seeking color transparencies of Williamsburg will be able to procure 51 kodachromes and 16 supplementary black and white slides from E. Taylor Judd, Box 711, Delavan, Wisconsin, at a cost of 50 cents per slide. The titles with brief annotations are available from Mr. Judd. Schools may preview the collection before ordering, by sending for a requisition form.

PUBLICATIONS RECEIVED

Archivo Espanol de Arte No 80, 81 - 1947, 1948. Madrid.

Pamphlet, River Basin Archaeology and Vol. I of the Quarterly Reports of the National Council for Historic Sites and Buildings.

Because of Iron, by SAH member John Albury Bryan; a pamphlet tracing the evolution of the elevator in America through the nineteenth century.

Georgian Pamphlet No. 5, Recommended Books on Georgian Architecture and Decoration.

CONTRIBUTORS

Theodore Sizer is Professor of the History of Art at Yale University, a Fellow of Davenport College and the former Director of the Yale University Art Gallery. He served in both World War I and II; as a major in the Monuments, Fine Arts and Archives Section of Military Government in World War II. He is the author of numerous articles on the arts and spent the year 1947-48 as a Guggenheim fellow collecting material on the life and work of Colonel John Trumbull. We are very glad to have his presentation of the little known aspect of Colonel Trumbull's career as an architect for publication in this issue.

Hans Blumenfeld is the author of several significant articles which have appeared in the JOURNAL "Mohenjo-Daro" Jan '42;"Form and Function in Urban Communities", Jan '43;"Russian City Planning of the 18th century and Early Nineteenth Centuries,"Jan '44). He began his city planning studies under Dr. A. E. Brinckmann and knows many European and Russian cities from first-hand study. He has been with the Philadelphia Housing Association for the past several years.

Frederic R. Stevenson will be remembered for his interesting article "Copenhagen, 1600-1700, an outstanding city planning achievement" (SAH JOURNAL Jan. '44). He is noteworthy as the first (1941) British member of the Society of Architectural Historians. His work on Early American City Planning, of which the first part is published in this issue, was begun while Mr. Stevenson was studying on a British fellowship at Columbia University under Professor Carl Feiss. Following military service in Iceland and Britain, Mr. Stevenson resumed his city planning studies in Britain. He is a lecturer in architecture at the University of Sheffield. He is also a member of the Department of Health for Scotland. In this latter capacity he is particularly concerned with advising Scottish local authorities as to ways of effectuating the 1947 Town and Country Planning Act.

Carl L. Feiss was formerly in charge of the Planning and Housing Division of the School of Architecture at Columbia University. He left New York to become Director of the Denver Planning Commission and, more recently, Director of the University of Denver's School of Architecture. Still more recently he has been appointed Chief of the Community Planning and Development Branch of the Division of Slum Clearance and Urban Redevelopment of the Housing and Home Finance Agency. We wish him well in his new position and hope that he will not have to sign his name with his full official title many times during the year.

Two previous articles by Mr. Feiss have appeared in the JOURNAL: "Heritage of our Planned Communities" and "History and the Modern Planner" in 1941 and 1943 respectively.

Giorgio Cavaglieri is a practicing architect of New York City. He received his doctor's degree in Civil Engineering at Milan, Italy and took post-doctoral work in City Planning at the University of Rome. His article in this issue concludes his Outline for a History of City Planning from Prehistory to the Fall of the Roman Empire.